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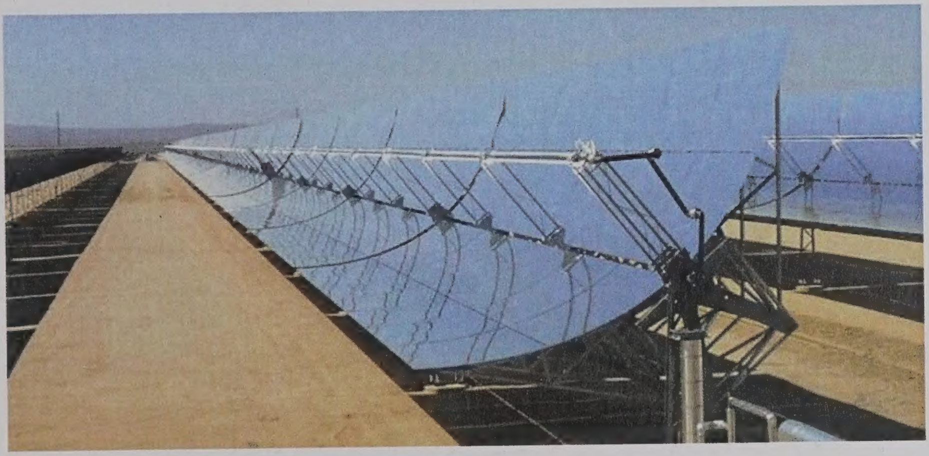
Bureau of Land Management

PLAN AMENDMENT/FINAL EIS FOR THE BLYTHE SOLAR POWER PROJECT

Volume 2 of 2



August 2010

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

#90101679

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APPENDIX A

Figures

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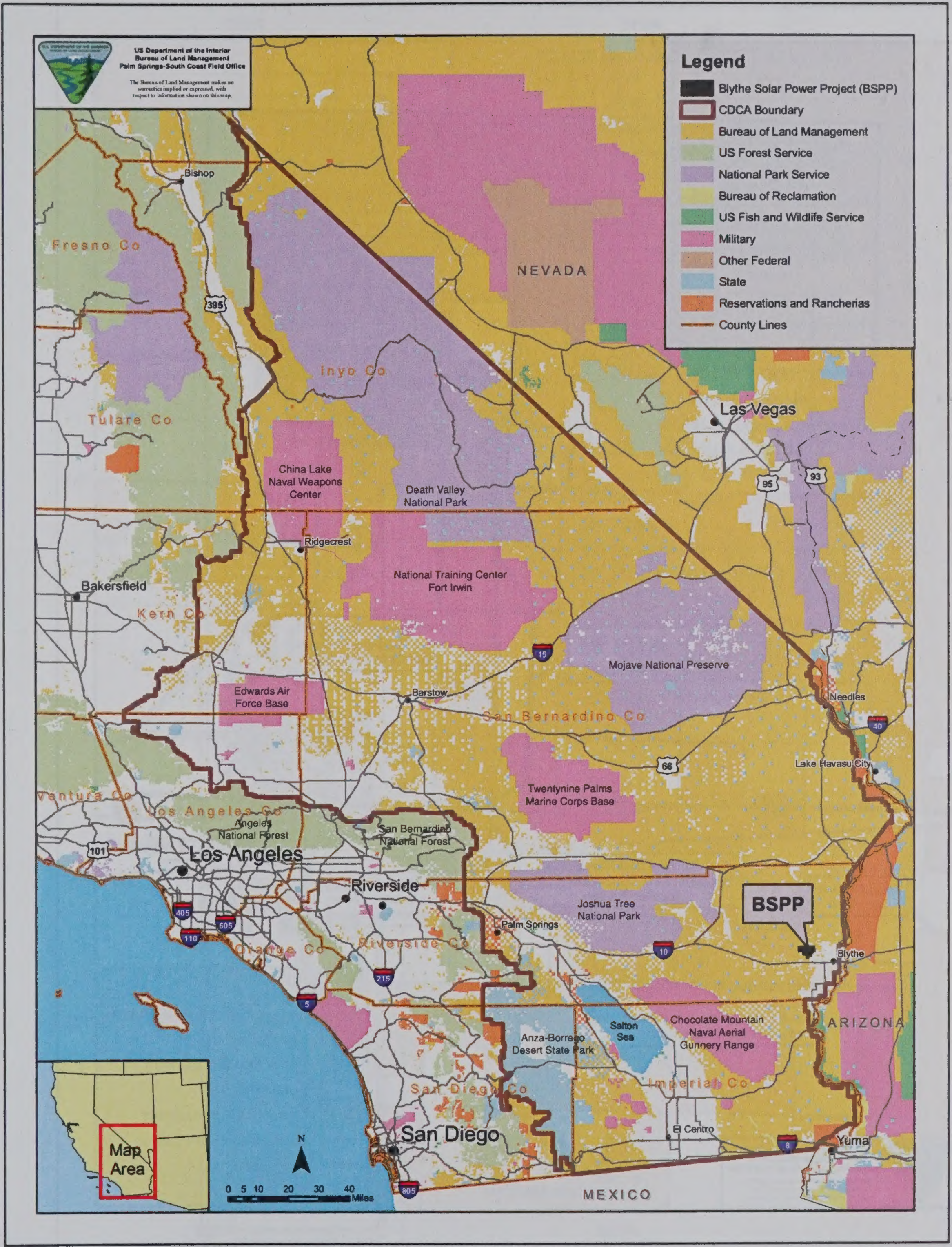
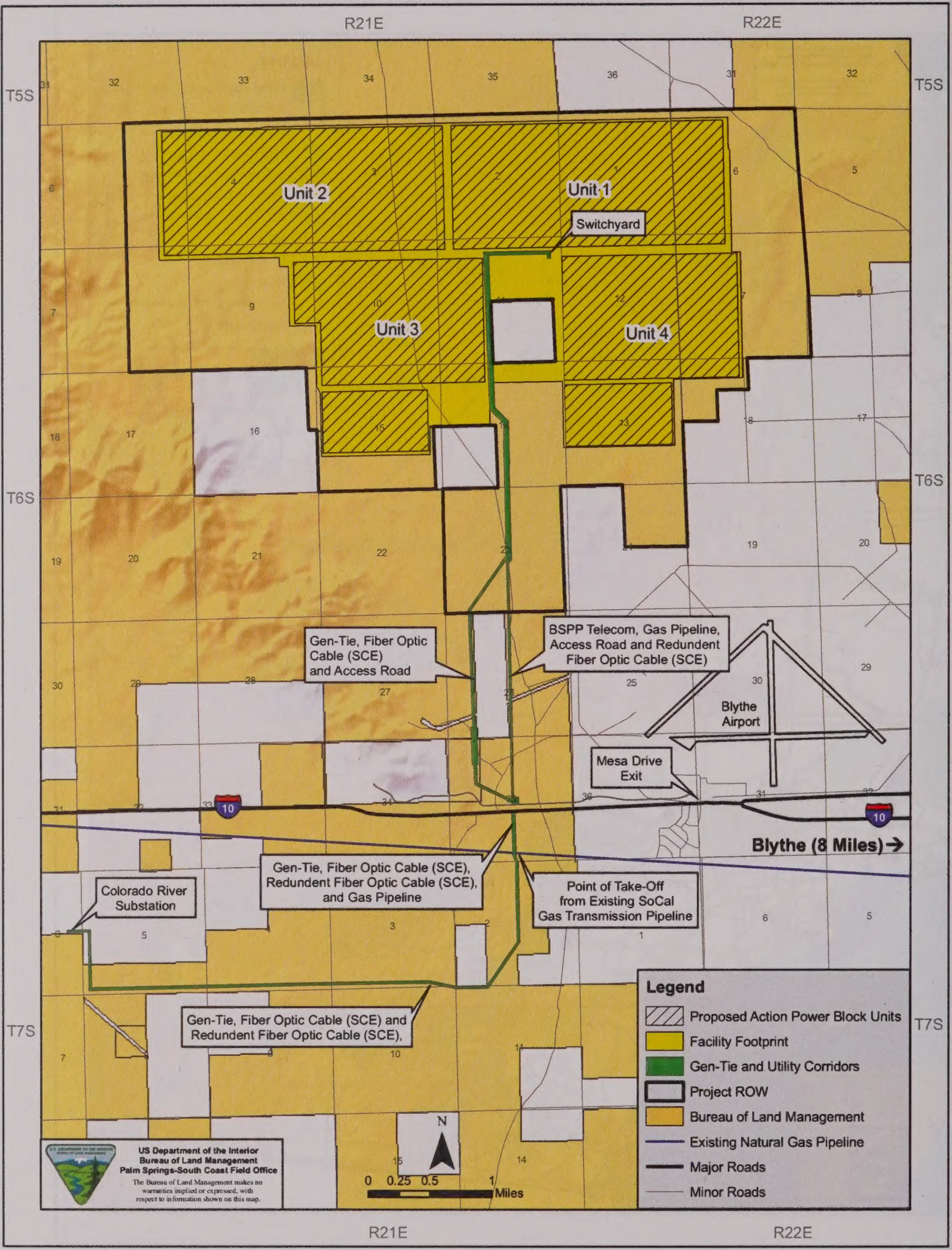

US Department of the Interior
Bureau of Land Management
Palm Springs-South Coast Field Office
The Bureau of Land Management makes no warranties implied or expressed, with respect to information shown on this map.
Legend
Blythe Solar Power Project (BSPP)
CDCA Boundary
Bureau of Land Management
US Forest Service
National Park Service
Bureau of Reclamation
US Fish and Wildlife Service
Military
Other Federal
State
Reservations and Rancherias
County Lines
Bishop
Fresno Co
NEVADA
395
Inyo Co
Tulare Co
Las Vegas
95
93
China Lake Naval Weapons Center
Death Valley National Park
Ridgecrest
National Training Center Fort Irwin
Bakersfield
Kern Co
15
Mojave National Preserve
Edwards Air Force Base
Barstow
Needles
San Bernardino Co
40
66
Lake Havasu City
Twentynine Palms Marine Corps Base
Ventura Co
Los Angeles Co
Angeles National Forest
San Bernardino National Forest
101
Los Angeles
Riverside
BSPP
Joshua Tree National Park
405
605
Palm Springs
110
10
Blythe
Orange Co
Riverside Co
215
5
ARIZONA
Salton Sea
Chocolate Mountain Naval Aerial Gunnery Range
Anza-Borrego Desert State Park
San Diego Co
Imperial Co
El Centro
Map Area
N
San Diego
8
Yuma
0 5 10 20 30 40 Miles
805
MEXICO

SOURCE: BLM 2010

Blythe Solar Power Project PA/FEIS

Figure 1
Regional Context


R21E
R22E
T5S
T6S
T7S
Unit 1
Unit 2
Unit 3
Unit 4
Switchyard
Gen-Tie, Fiber Optic Cable (SCE) and Access Road
BSPP Telecom, Gas Pipeline, Access Road and Redundent Fiber Optic Cable (SCE)
Blythe Airport
Mesa Drive Exit
10
Blythe (8 Miles) →
Gen-Tie, Fiber Optic Cable (SCE), Redundent Fiber Optic Cable (SCE), and Gas Pipeline
Point of Take-Off from Existing SoCal Gas Transmission Pipeline
Colorado River Substation
Gen-Tie, Fiber Optic Cable (SCE) and Redundent Fiber Optic Cable (SCE),
Legend
▨ Proposed Action Power Block Units
Facility Footprint
Gen-Tie and Utility Corridors
Project ROW
Bureau of Land Management
Existing Natural Gas Pipeline
Major Roads
Minor Roads
N
0 0.25 0.5 1 Miles
US Department of the Interior
Bureau of Land Management
Palm Springs-South Coast Field Office
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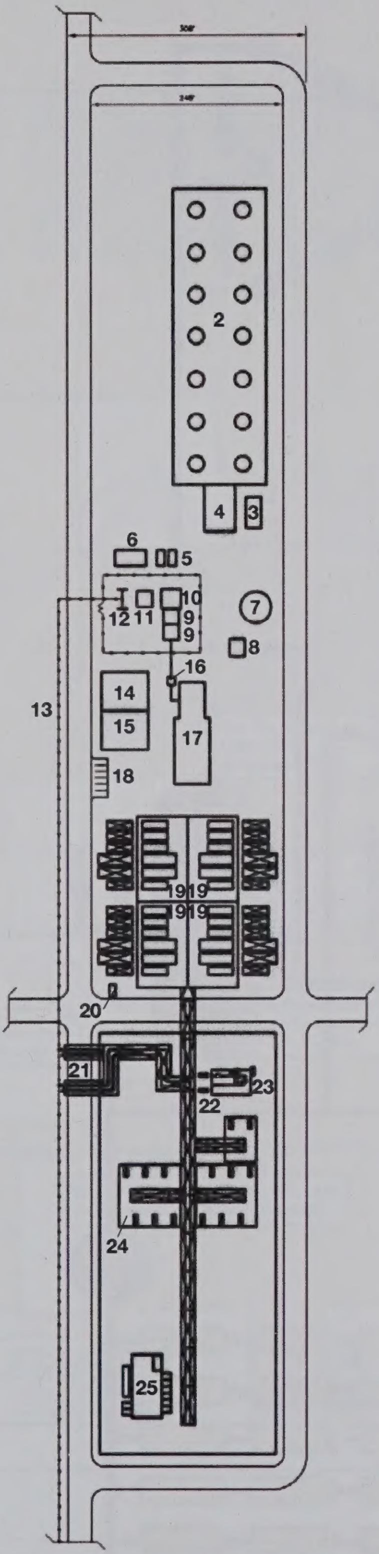
SOURCE: BLM 2010

Blythe Solar Power Project PA/FEIS

Figure 2a
Site Layout

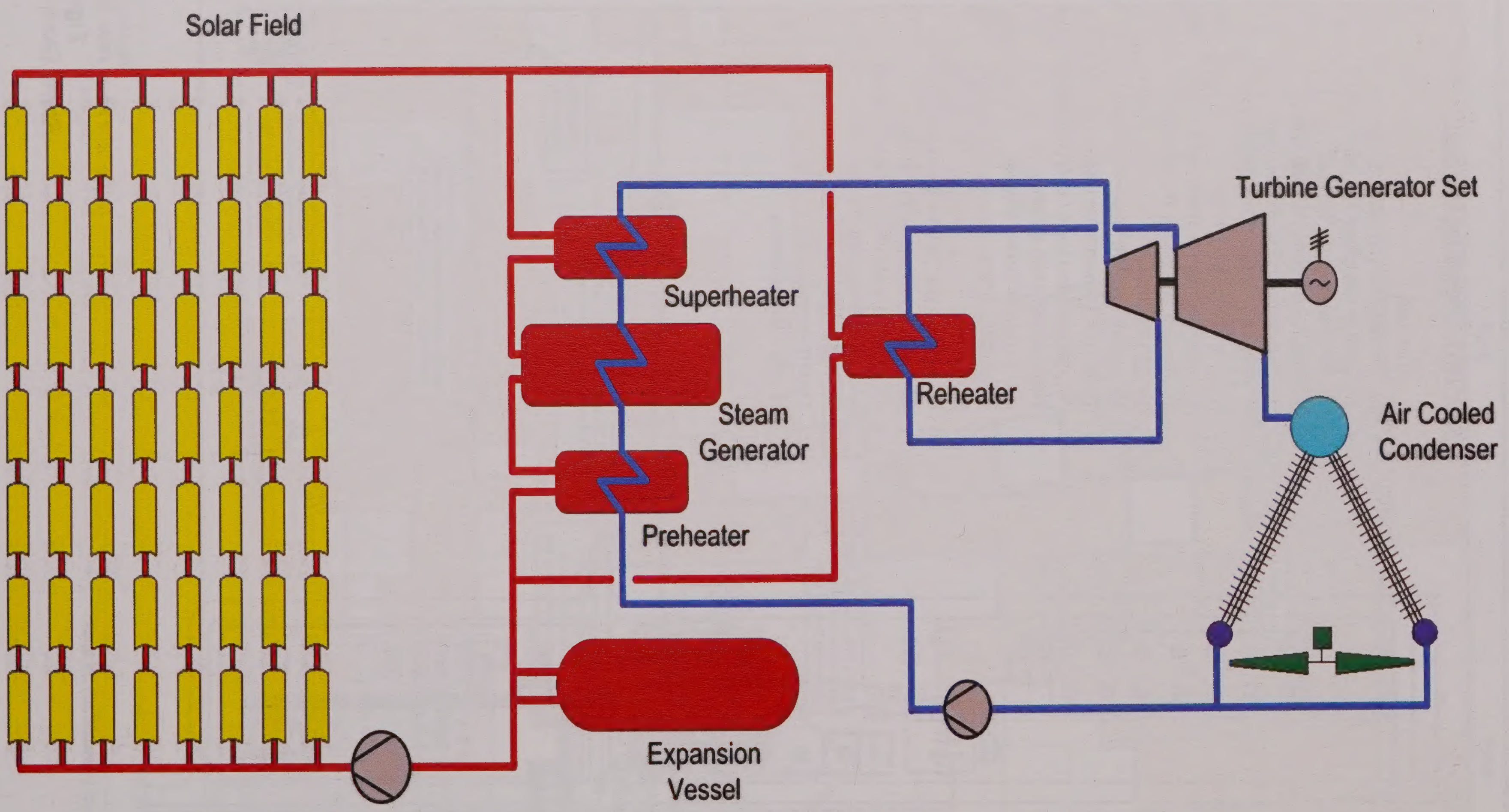


Power Block Buildings and Structures

1. [Deleted]
2. Cooling Tower (ACC)
3. Sodium Hydroxide and Acid Tanks
4. Circulating Water Pumps
5. SUS Transformer and 480 V Bus
6. Emergency Diesel Generator
7. Fire and Service Water Tank
8. Fire Protection Pumps
9. Main Auxiliary Transformers
10. Generator Step Up Transformer
11. 230 kV Breaker
12. 230 kV Take Off Tower
13. 230 kV Transmission Line
14. Electrical and Local Control Building
15. Administration Building
16. Generator Circuit Breaker
17. Steam Turbine
18. Parking
19. Heaters and Steam Generators
20. Solar Field Circulation Pump
21. HTF Piping Connection to Solar Field
22. Freeze Protection Pumps
23. HTF Heater
24. HTF Main Pumps
25. Workshop Building

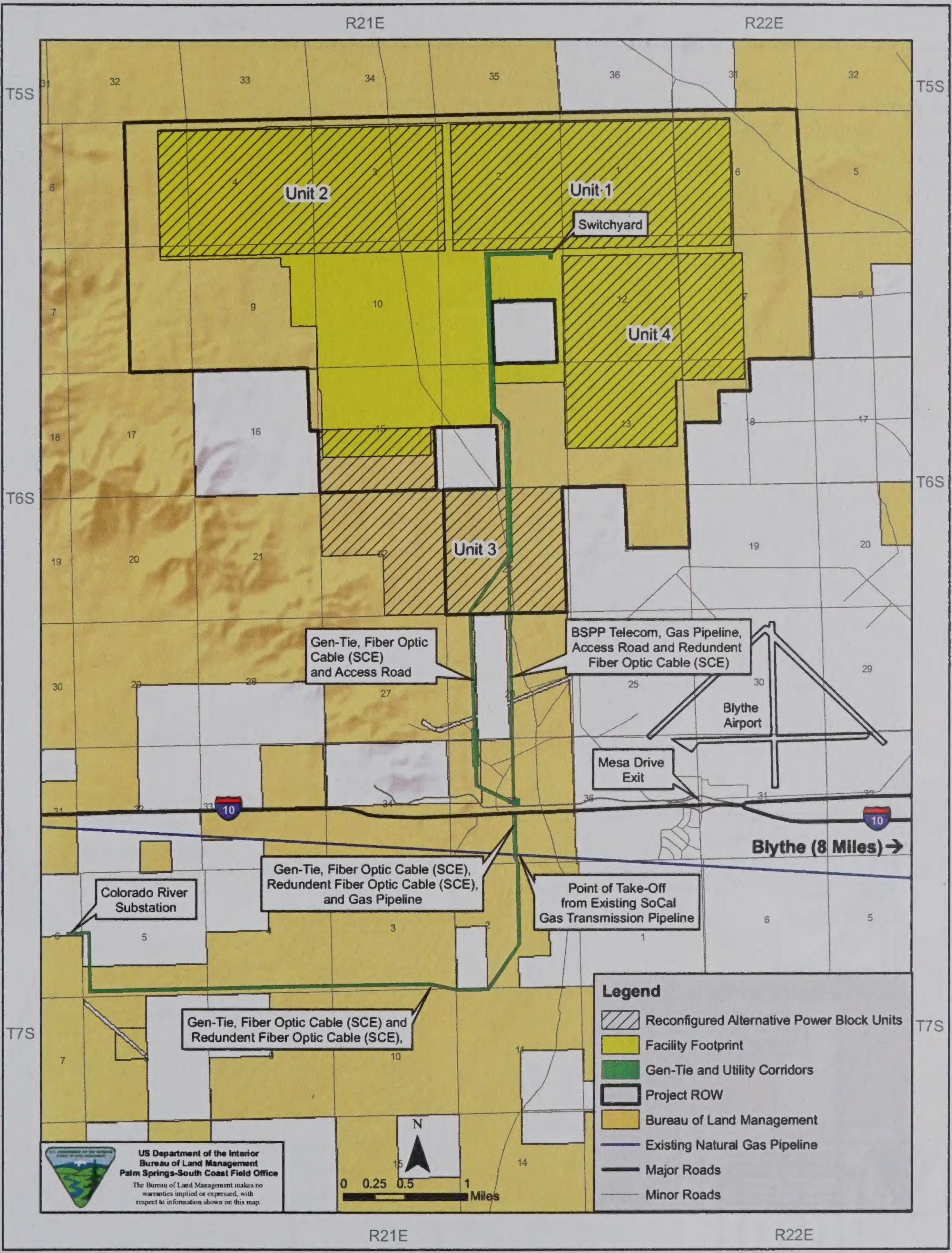
SOURCE: Palo Verde Solar I POD Submitted July 29, 2009

Figure 2b
Power Block Detail



SOURCE: Palo Verde Solar I POD Submitted July 29, 2009

Figure 3
Solar Unit Detail


R21E
R22E
T5S
T6S
T7S
Unit 2
Unit 1
Switchyard
Unit 4
Unit 3
Gen-Tie, Fiber Optic Cable (SCE) and Access Road
BSPP Telecom, Gas Pipeline, Access Road and Redundent Fiber Optic Cable (SCE)
Blythe Airport
Mesa Drive Exit
10
Blythe (8 Miles)→
Gen-Tie, Fiber Optic Cable (SCE), Redundent Fiber Optic Cable (SCE), and Gas Pipeline
Point of Take-Off from Existing SoCal Gas Transmission Pipeline
Colorado River Substation
Gen-Tie, Fiber Optic Cable (SCE) and Redundent Fiber Optic Cable (SCE),
Legend
Reconfigured Alternative Power Block Units
Facility Footprint
Gen-Tie and Utility Corridors
Project ROW
Bureau of Land Management
Existing Natural Gas Pipeline
Major Roads
Minor Roads
N
0 0.25 0.5 1 Miles
US Department of the Interior
Bureau of Land Management
Palm Springs-South Coast Field Office
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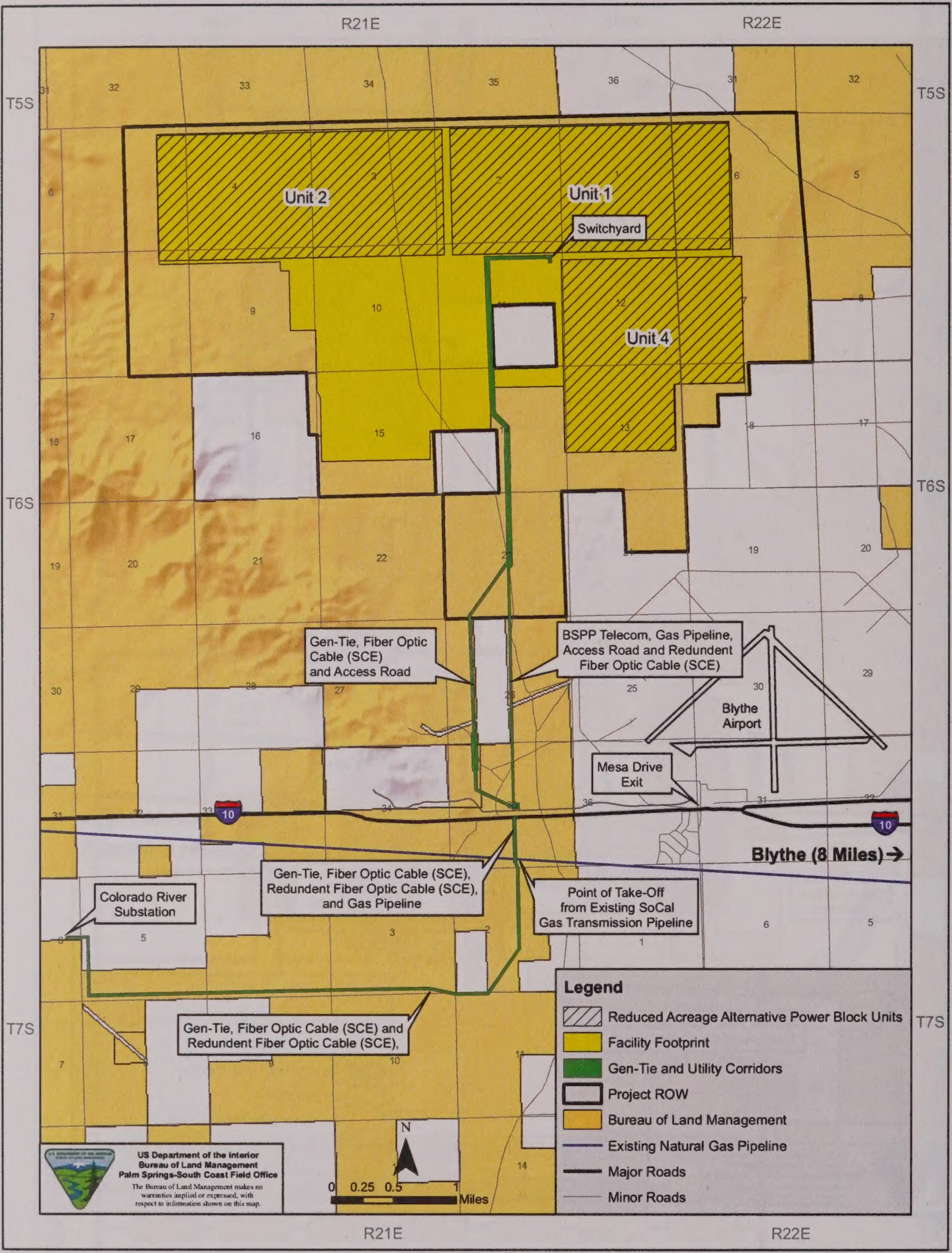
SOURCE: BLM 2010

Figure 4
Reconfigured Alternative


R21E
R22E
T5S
T6S
T7S
Unit 2
Unit 1
Unit 4
Switchyard
Gen-Tie, Fiber Optic Cable (SCE) and Access Road
BSPP Telecom, Gas Pipeline, Access Road and Redundent Fiber Optic Cable (SCE)
Blythe Airport
Mesa Drive Exit
10
Blythe (8 Miles)→
Gen-Tie, Fiber Optic Cable (SCE), Redundent Fiber Optic Cable (SCE), and Gas Pipeline
Point of Take-Off from Existing SoCal Gas Transmission Pipeline
Colorado River Substation
Gen-Tie, Fiber Optic Cable (SCE) and Redundent Fiber Optic Cable (SCE),
Legend
▨ Reduced Acreage Alternative Power Block Units
🟨 Facility Footprint
🟩 Gen-Tie and Utility Corridors
☐ Project ROW
🟧 Bureau of Land Management
Existing Natural Gas Pipeline
Major Roads
Minor Roads
N
0 0.25 0.5 1 Miles
US Department of the Interior
Bureau of Land Management
Palm Springs-South Coast Field Office
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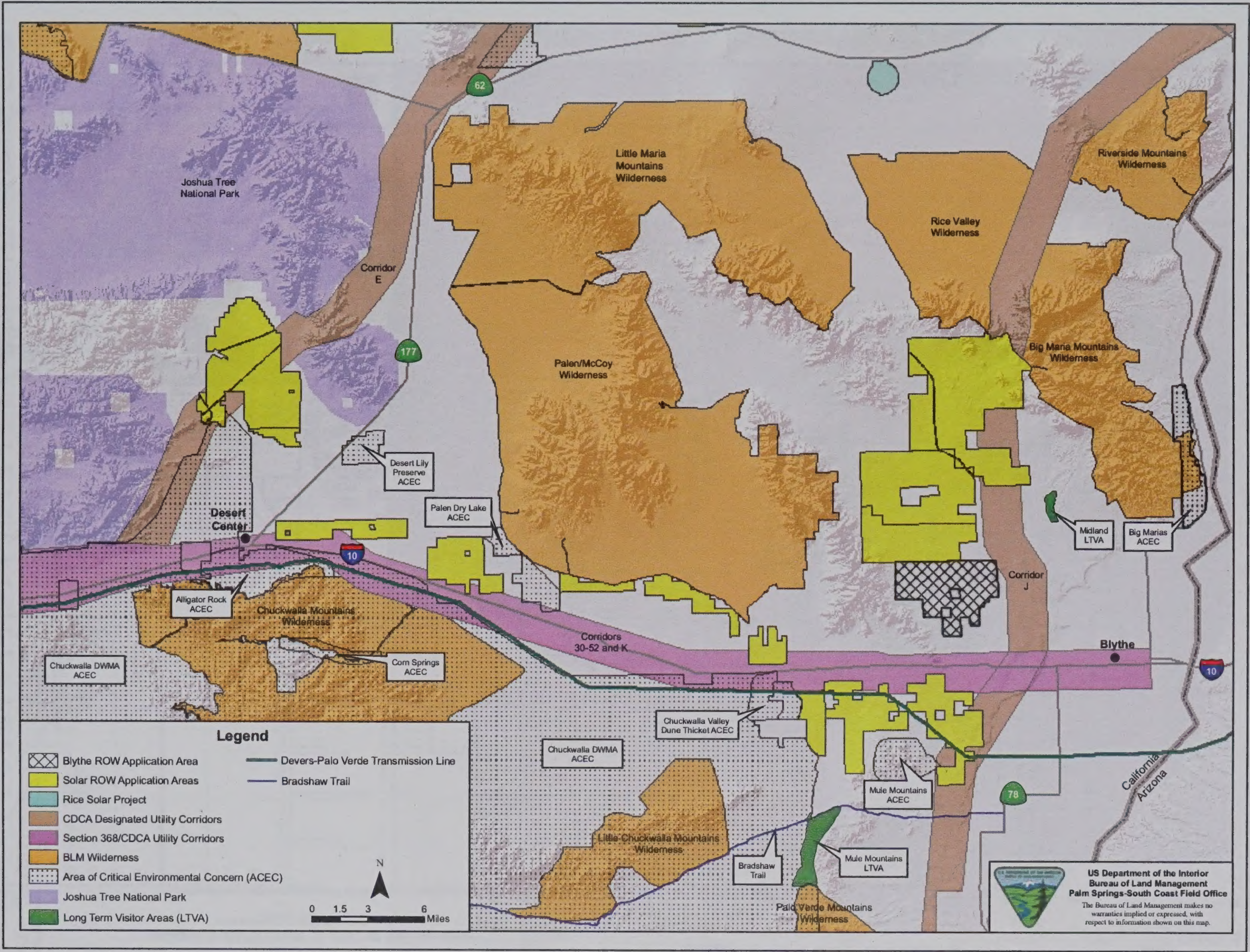
SOURCE: BLM 2010

Blythe Solar Power Project PA/FEIS

Figure 5

Reduced Acreage Alternative


Joshua Tree National Park
62
Little Maria Mountains Wilderness
Riverside Mountains Wilderness
Rice Valley Wilderness
Corridor E
177
Palen/McCoy Wilderness
Big Maria Mountains Wilderness
Desert Lily Preserve ACEC
Palen Dry Lake ACEC
Midland LTVA
Big Marias ACEC
Desert Center
10
Corridor J
Alligator Rock ACEC
Chuckwalla Mountains Wilderness
Corridors 30-52 and K
Blythe
Chuckwalla DWMA ACEC
Corn Springs ACEC
10
Chuckwalla Valley Dune Thicket ACEC
Chuckwalla DWMA ACEC
Mule Mountains ACEC
78
California
Arizona
Little Chuckwalla Mountains Wilderness
Bradshaw Trail
Mule Mountains LTVA
Palo Verde Mountains Wilderness
Legend
Blythe ROW Application Area
Solar ROW Application Areas
Rice Solar Project
CDCA Designated Utility Corridors
Section 368/CDCA Utility Corridors
BLM Wilderness
Area of Critical Environmental Concern (ACEC)
Joshua Tree National Park
Long Term Visitor Areas (LTVA)
Devers-Palo Verde Transmission Line
Bradshaw Trail
N
0 1.5 3 6 Miles
US Department of the Interior
Bureau of Land Management
Palm Springs-South Coast Field Office
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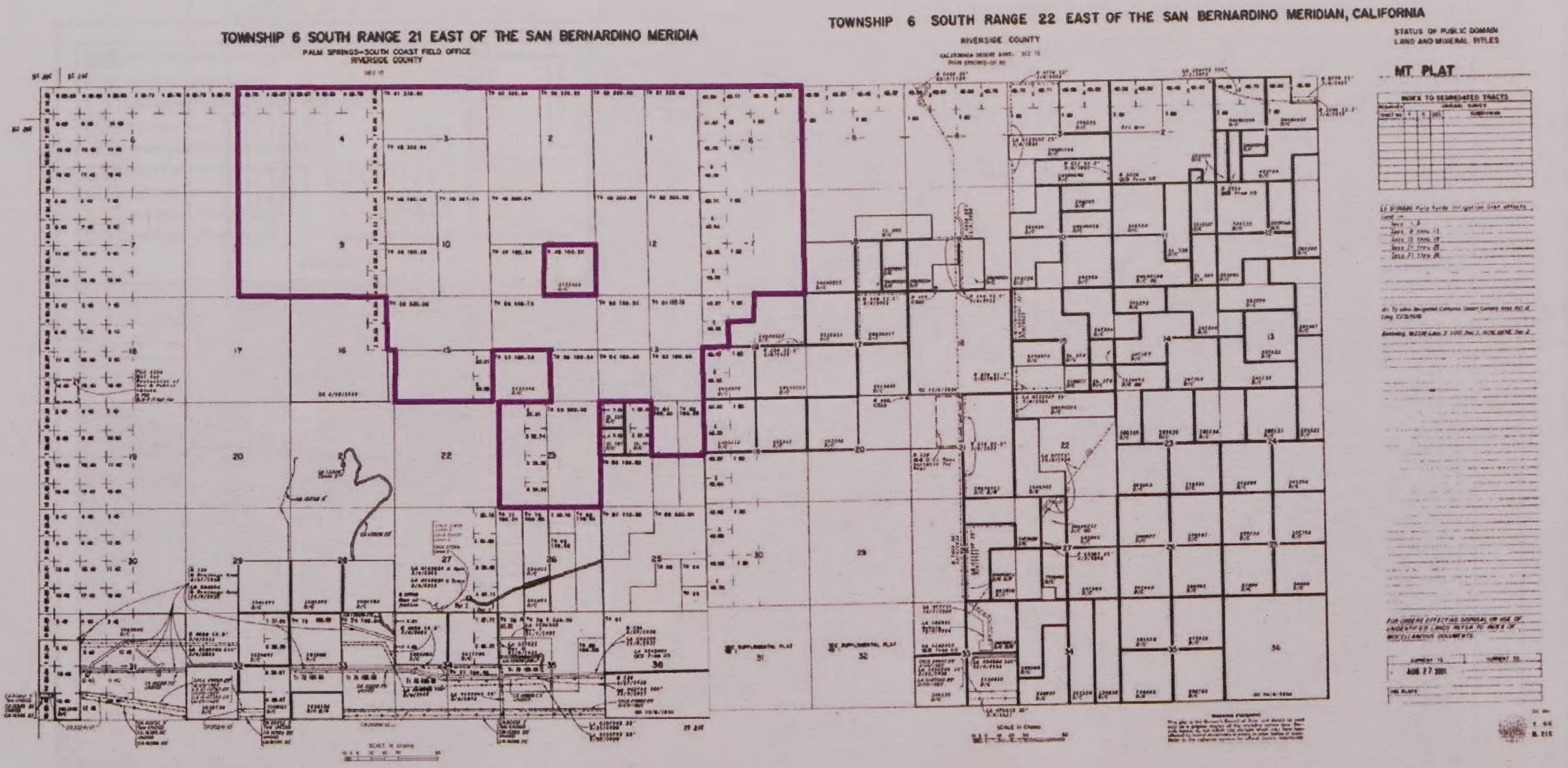
SOURCE: BLM 2010

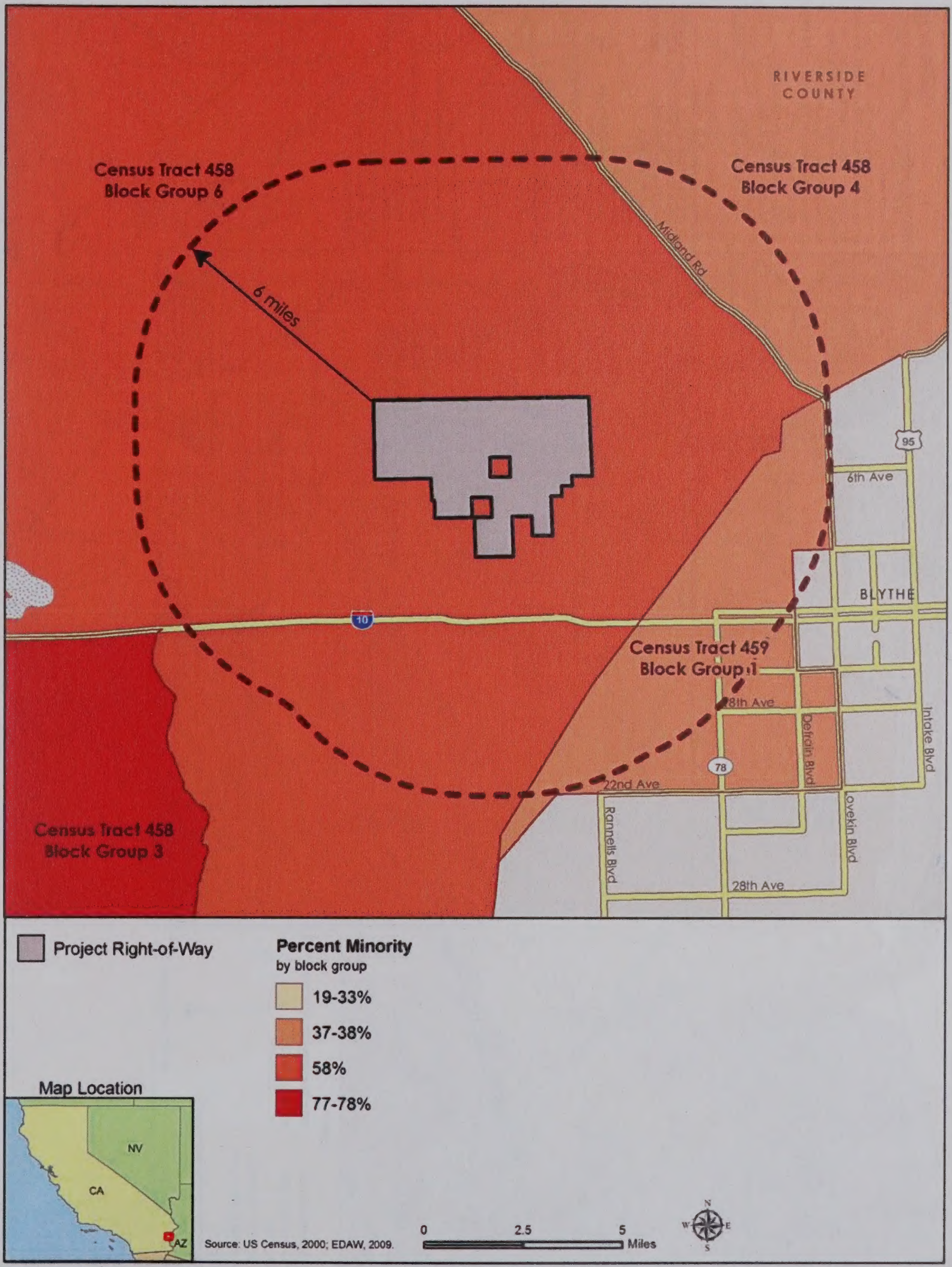
Figure 6
BLM Rights of Way


TOWNSHIP 6 SOUTH RANGE 21 EAST OF THE SAN BERNARDINO MERIDIA
PALM SPRINGS–SOUTH COAST FIELD OFFICE
RIVERSIDE COUNTY
TOWNSHIP 6 SOUTH RANGE 22 EAST OF THE SAN BERNARDINO MERIDIAN, CALIFORNIA
RIVERSIDE COUNTY
STATUS OF PUBLIC DOMAIN
LAND AND MINERAL TITLES
MT PLAT
INDEX TO SEGREGATED TRACTS
SCALE IN CHAINS

SOURCE: Palo Verde Solare I POD Submitted July 29, 2009

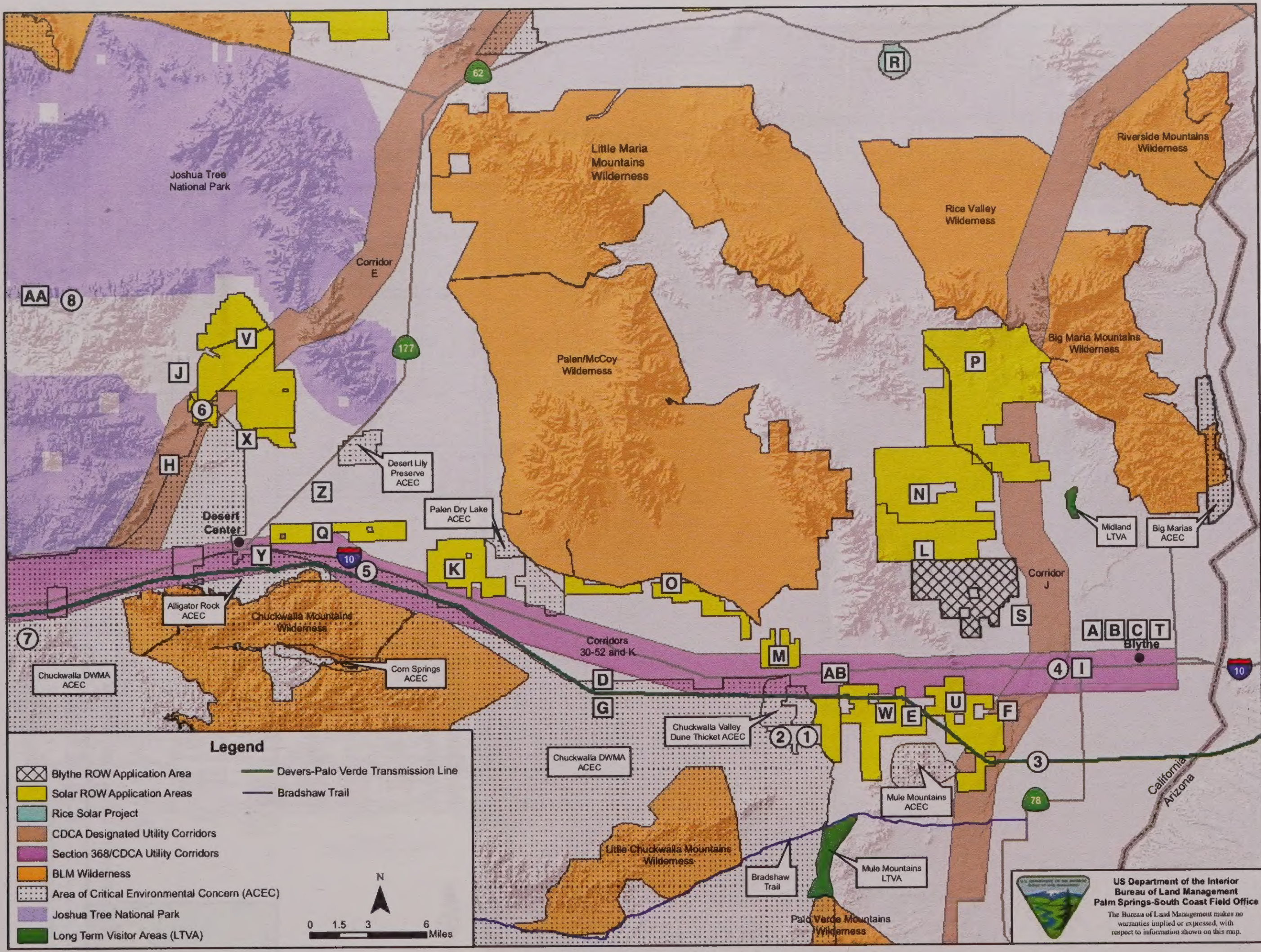
Figure 7

BLM Master Title Plat ROW CACA - 048811



SOURCE: Palo Verde Solar I AFC August 2009

Figure 8
Census 2000 Minority Population by Census Block


Joshua Tree National Park
Little Maria Mountains Wilderness
Rice Valley Wilderness
Riverside Mountains Wilderness
Big Maria Mountains Wilderness
Palen/McCoy Wilderness
Corridor E
Corridor J
Corridors 30-52 and K
Desert Lily Preserve ACEC
Palen Dry Lake ACEC
Midland LTVA
Big Marias ACEC
Desert Center
Alligator Rock ACEC
Chuckwalla Mountains Wilderness
Corn Springs ACEC
Chuckwalla DWMA ACEC
Chuckwalla Valley Dune Thicket ACEC
Mule Mountains ACEC
Mule Mountains LTVA
Bradshaw Trail
Little Chuckwalla Mountains Wilderness
Palo Verde Mountains Wilderness
Blythe
California
Arizona
62
177
10
78
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA AB
1 2 3 4 5 6 7 8
Legend
Blythe ROW Application Area
Solar ROW Application Areas
Rice Solar Project
CDCA Designated Utility Corridors
Section 368/CDCA Utility Corridors
BLM Wilderness
Area of Critical Environmental Concern (ACEC)
Joshua Tree National Park
Long Term Visitor Areas (LTVA)
Devers-Palo Verde Transmission Line
Bradshaw Trail
N
0 1.5 3 6 Miles
US Department of the Interior
Bureau of Land Management
Palm Springs-South Coast Field Office
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Proposed Projects

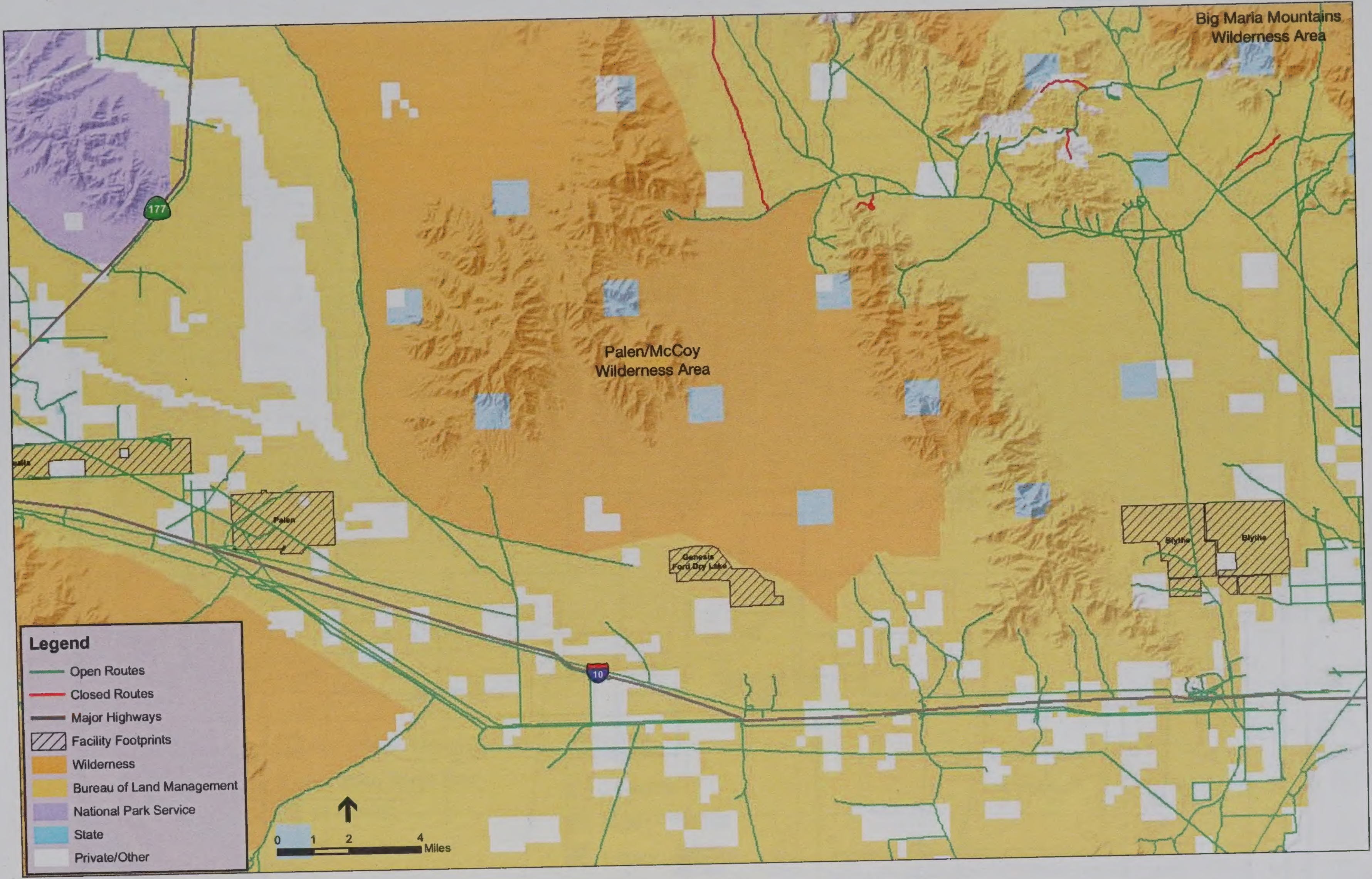
A	Four Commercial Projects
B	Intake Shell
C	Fifteen Residential Developments
D	Devers-Palo Verde 2 Transmission Line Project
E	Colorado Substation and Expansion
F	Blythe Energy Project Transmission Line
G	Desert Southwest Transmission Line
H	Green Energy Express Transmission Line Project
I	Blythe Energy Project II
J	Eagle Mountain Pumped Storage Project
K	Palen Solar Power Project
L	NextEra (FPL) McCoy
M	Mule Mountain Solar Project
N	McCoy Soleil Project
O	Genesis Solar Energy Project
P	Big Maria Vista Solar Project
Q	Chuckwalla Solar I
R	Rice Solar Energy Project
S	Blythe Airport Solar I Project
T	Blythe PV Project
U	Desert Quartzite
V	Desert Sunlight
W	Mule Mountain Solar Project
X	Eagle Mountain Soleil
Y	Red Bluff Substation (Location is unknown)
Z	Chuckwalla Valley Raceway
AA	Eagle Mountain Landfill Project
AB	Wileys Well Communication Tower

Existing Projects

1	Chuckwalla Valley State Prison
2	Ironwood State Prison
3	Devers-Palo Verde 1 Transmission Line
4	Blythe Energy Project
5	West-wide Section 368 Energy Corridors
6	Eagle Mountain Pumping Plant
7	Recreational Opportunities
8	Kaiser Mine

SOURCE: BLM 2010

Figure 9
I-10 Corridor Existing and Proposed Actions

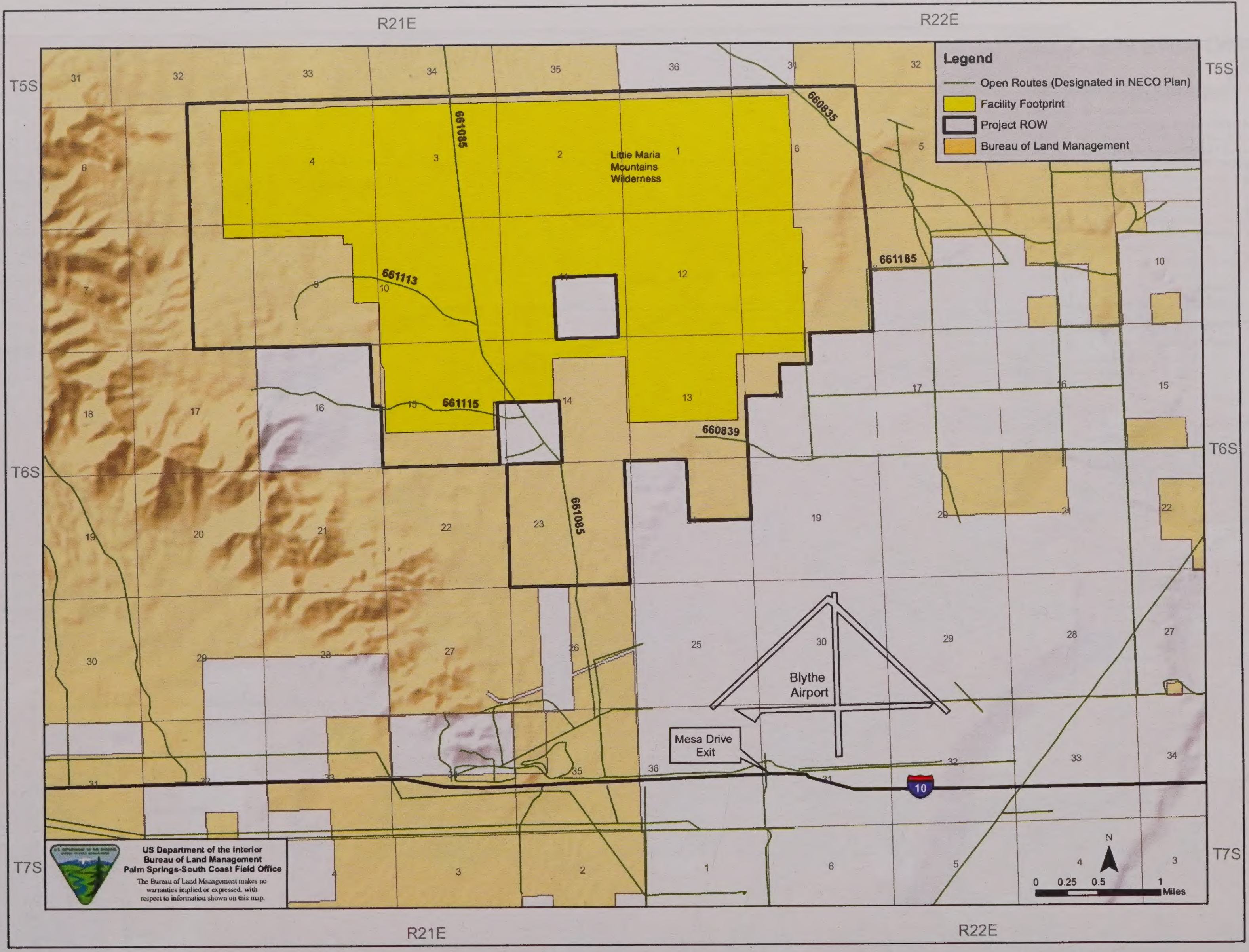


SOURCE: BLM, July 16, 2010

Blythe Solar Power Project PA/FEIS

Figure 10

NECO Plan Route Designation


R21E
R22E
T5S
T6S
T7S
Legend
Open Routes (Designated in NECO Plan)
Facility Footprint
Project ROW
Bureau of Land Management
Little Maria Mountains Wilderness
661085
660835
661185
661113
661115
660839
Blythe Airport
Mesa Drive Exit
10
US Department of the Interior
Bureau of Land Management
Palm Springs-South Coast Field Office
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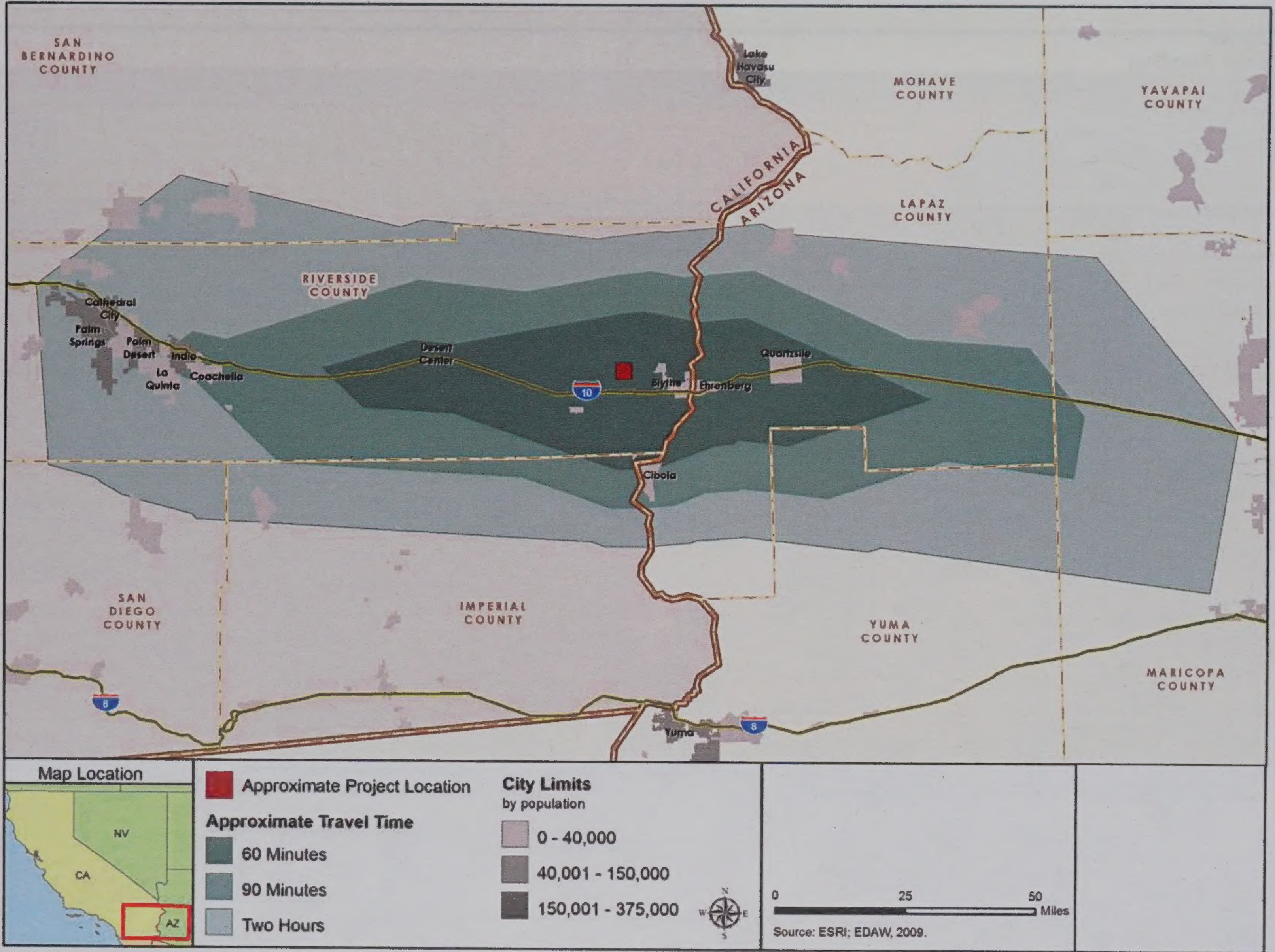
N
0
0.25
0.5
1
Miles

SOURCE: BLM 2010

Blythe Solar Power Project PA/FEIS

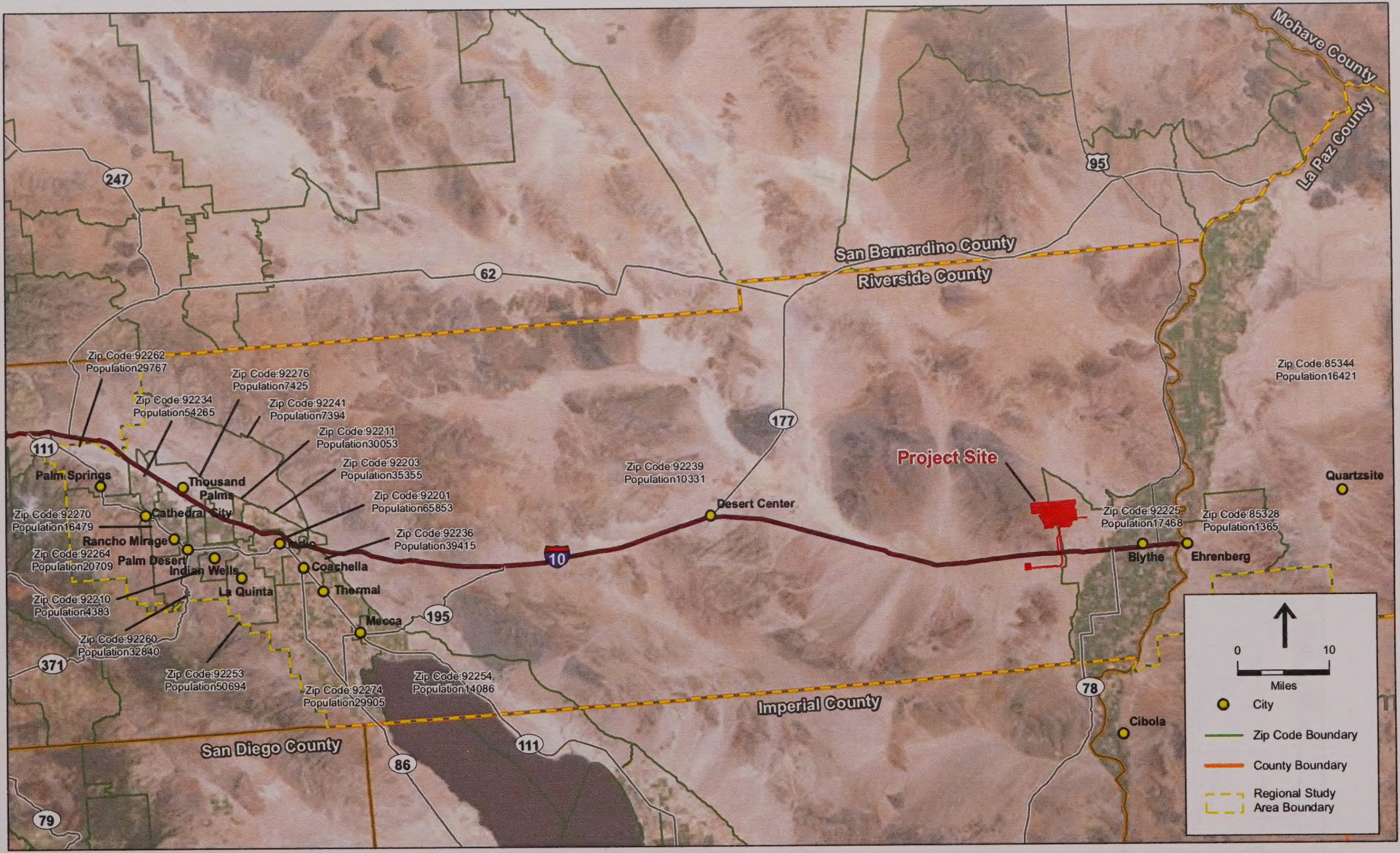
Figure 10a

NECO Plan Route Designation
within the Project Area



SOURCE: Palo Verde Solar I AFC August 2009

Figure 11
Estimated Travel Time for Project Workers

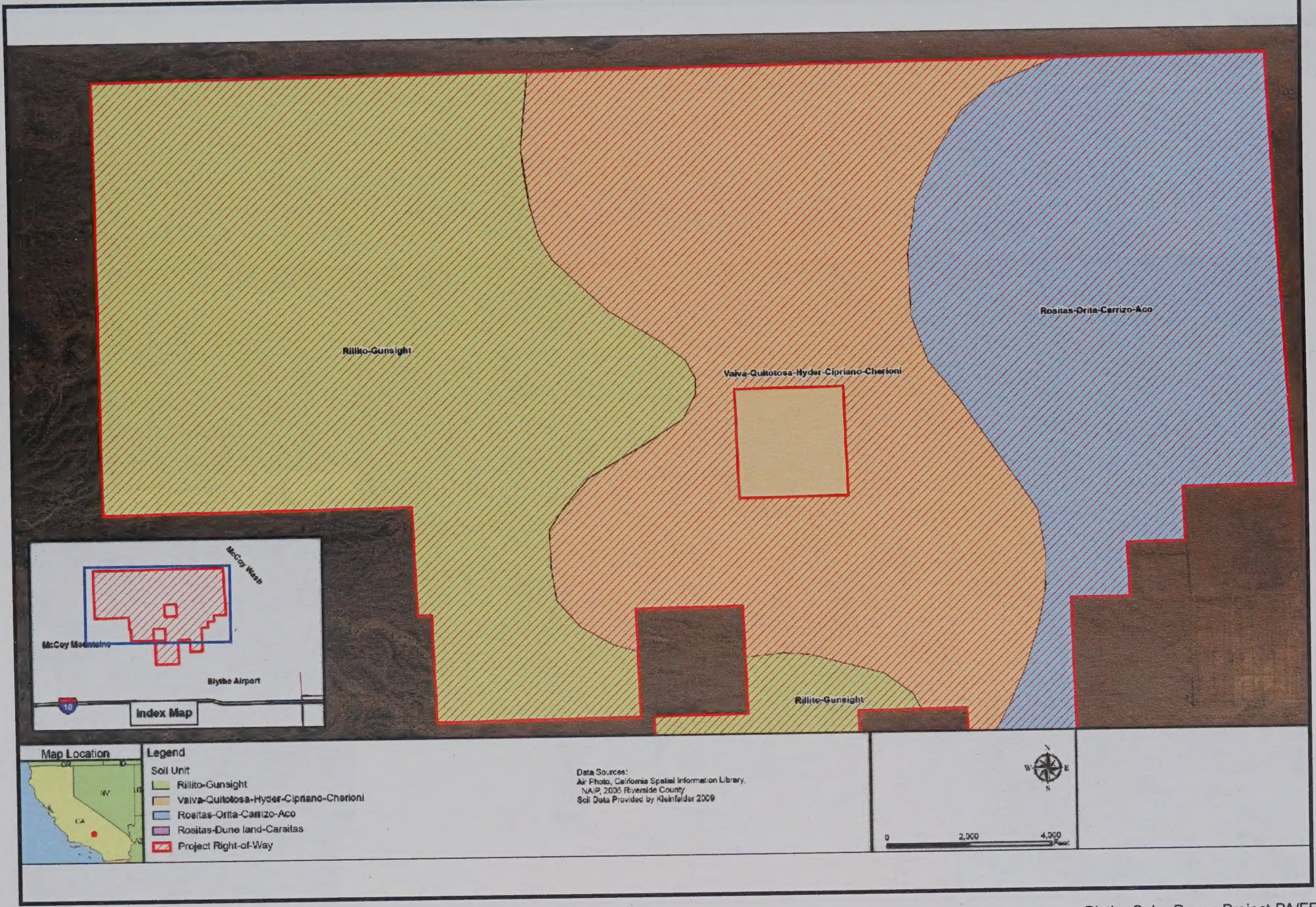


SOURCE: ESRI, 2010; Tele Atlas North America Inc., 2010;
Estimated 2010 Population data derived from 2000 Census data

Blythe Solar Power Project PA/FEIS

Figure 12

Regional Study Area
by Zip Code

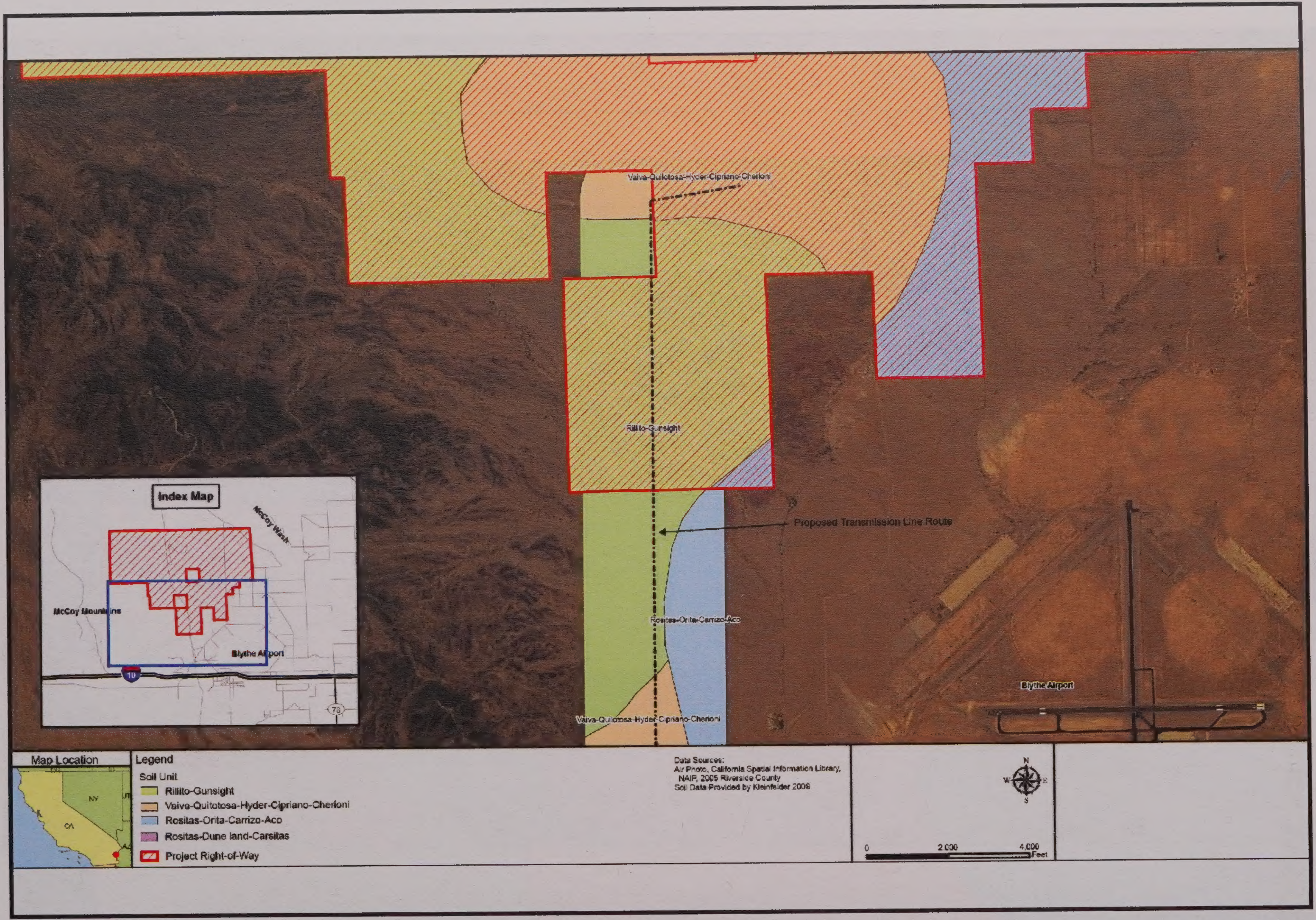

Rillito-Gunsight
Valva-Quitotosa-Hyder-Cipriano-Cherioni
Rositas-Orita-Carrizo-Aco
Rillito-Gunsight
McCoy Wash
McCoy Mountains
Blythe Airport
10
Index Map
Map Location
NV
CA
Legend
Soil Unit
🟩 Rillito-Gunsight
🟧 Valva-Quitotosa-Hyder-Cipriano-Cherioni
🟦 Rositas-Orita-Carrizo-Aco
🟪 Rositas-Dune land-Carsitas
▨ Project Right-of-Way
Data Sources:
Air Photo, California Spatial Information Library,
NAIP, 2005 Riverside County
Soil Data Provided by Kleinfelder 2009
N
W
E
S
0
2,000
4,000
Feet

Blythe Solar Power Project PA/FEIS

Figure 13a

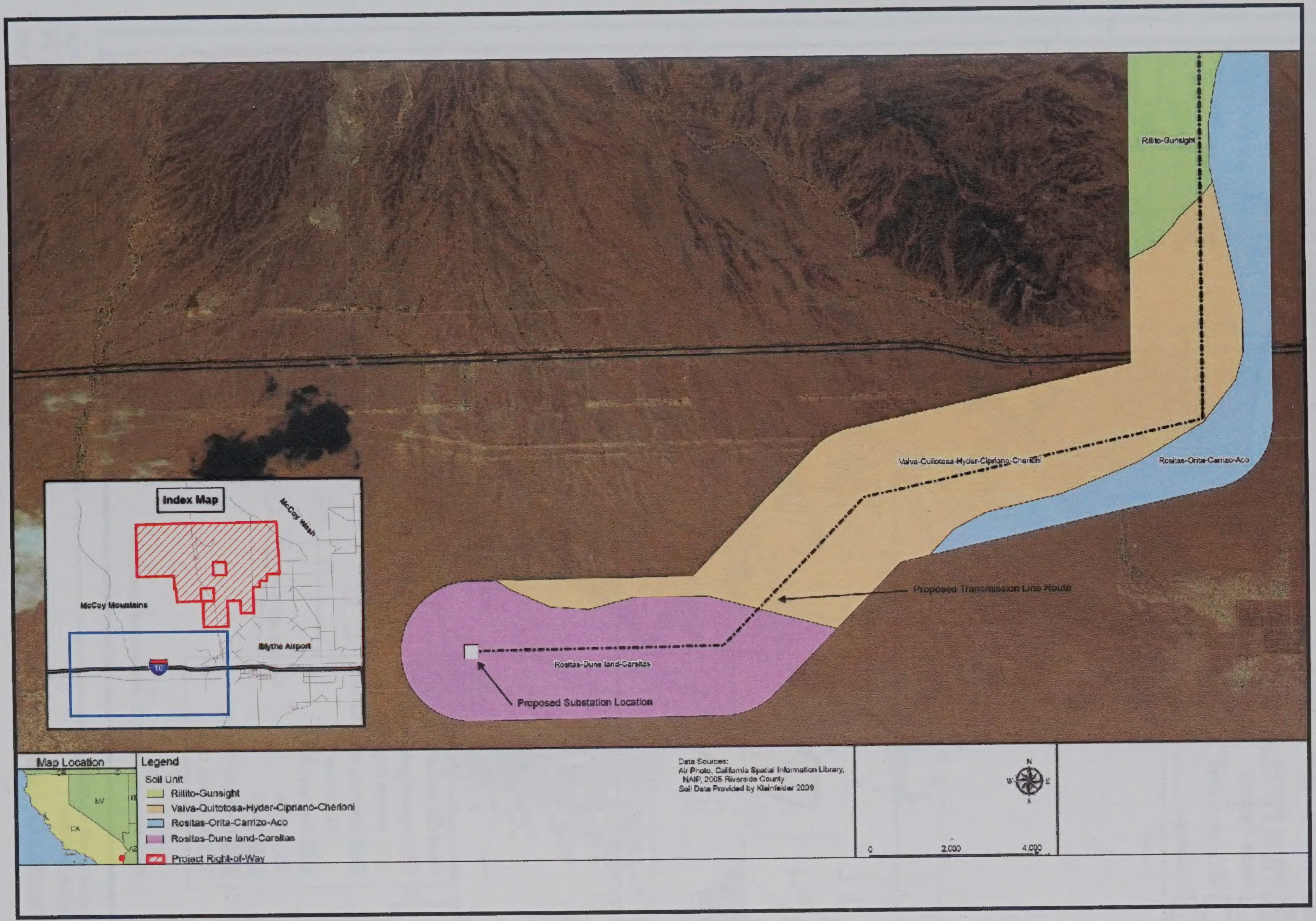
Soils Map

SOURCE: CEC RSA June 2010


Valva-Quilotosa-Hyder-Cipriano-Cherioni
Rillito-Gunsight
Proposed Transmission Line Route
Rositas-Orita-Carrizo-Aco
Valva-Quilotosa-Hyder-Cipriano-Cherioni
Blythe Airport
Index Map
McCoy Wash
McCoy Mountains
Blythe Airport
10
78
Map Location
NV
CA
Legend
Soil Unit
Rillito-Gunsight
Valva-Quilotosa-Hyder-Cipriano-Cherioni
Rositas-Orita-Carrizo-Aco
Rositas-Dune land-Carsitas
Project Right-of-Way
Data Sources:
Air Photo, California Spatial Information Library,
NAIP, 2005 Riverside County
Soil Data Provided by Kleinfelder 2008
N
W
E
S
0
2,000
4,000
Feet

SOURCE: CEC RSA June 2010

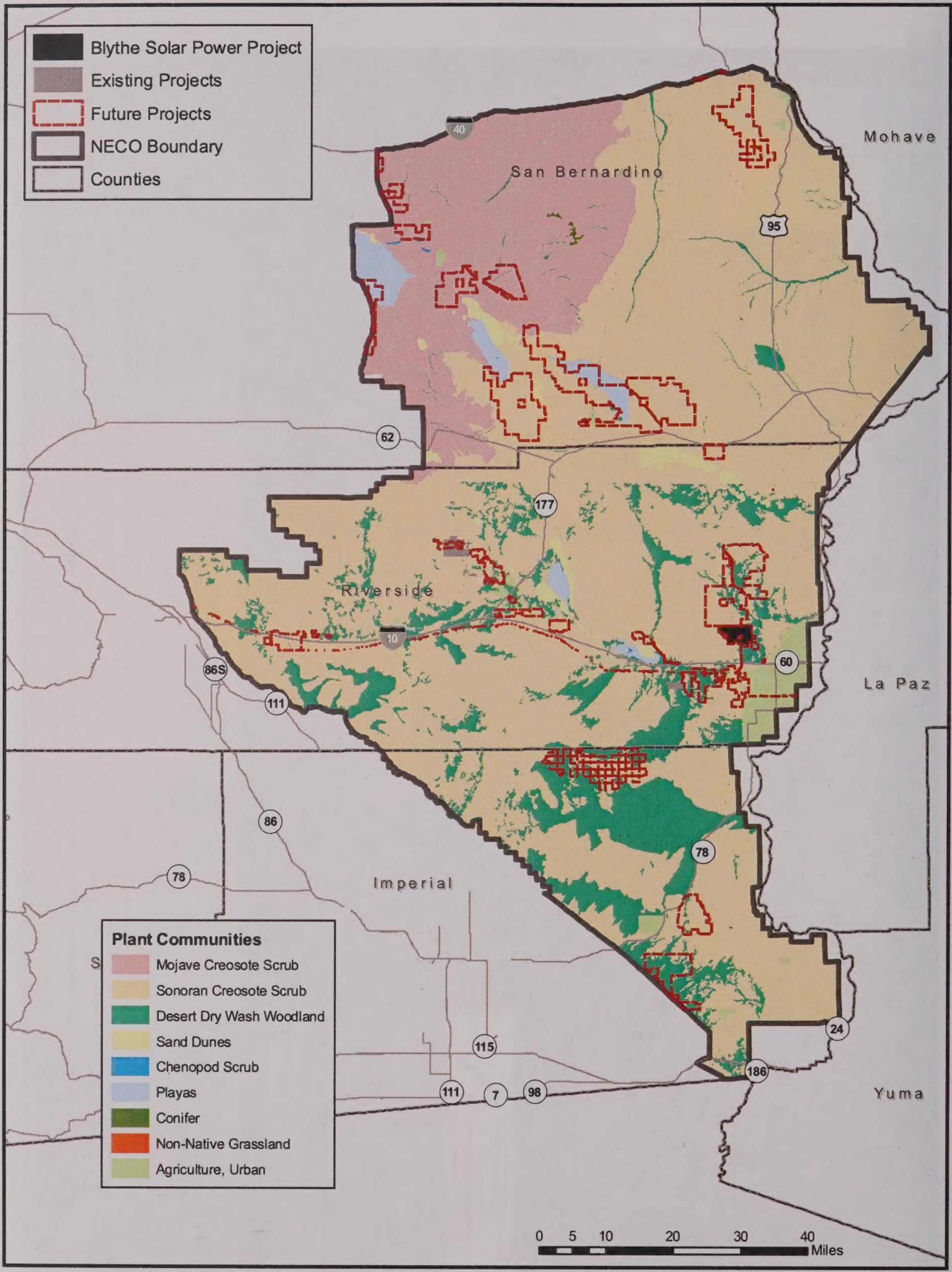
Figure 13b
Soils Map


Rillito-Gunsight
Valva-Cuitotosa-Hyder-Cipriano-Cherioni
Rositas-Orita-Carrizo-Aco
Proposed Transmission Line Route
Rositas-Dune land-Carsitas
Proposed Substation Location
Index Map
McCoy Wash
McCoy Mountains
Blythe Airport
10
Map Location
NV
CA
AZ
Legend
Soil Unit
Rillito-Gunsight
Valva-Quitotosa-Hyder-Cipriano-Cherioni
Rositas-Orita-Carrizo-Aco
Rositas-Dune land-Carsitas
Project Right-of-Way
Data Sources:
Air Photo, California Spatial Information Library,
NAIP, 2005 Riverside County
Soil Data Provided by Kleinfelder 2009
N
W
E
S
0
2,000
4,000

SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

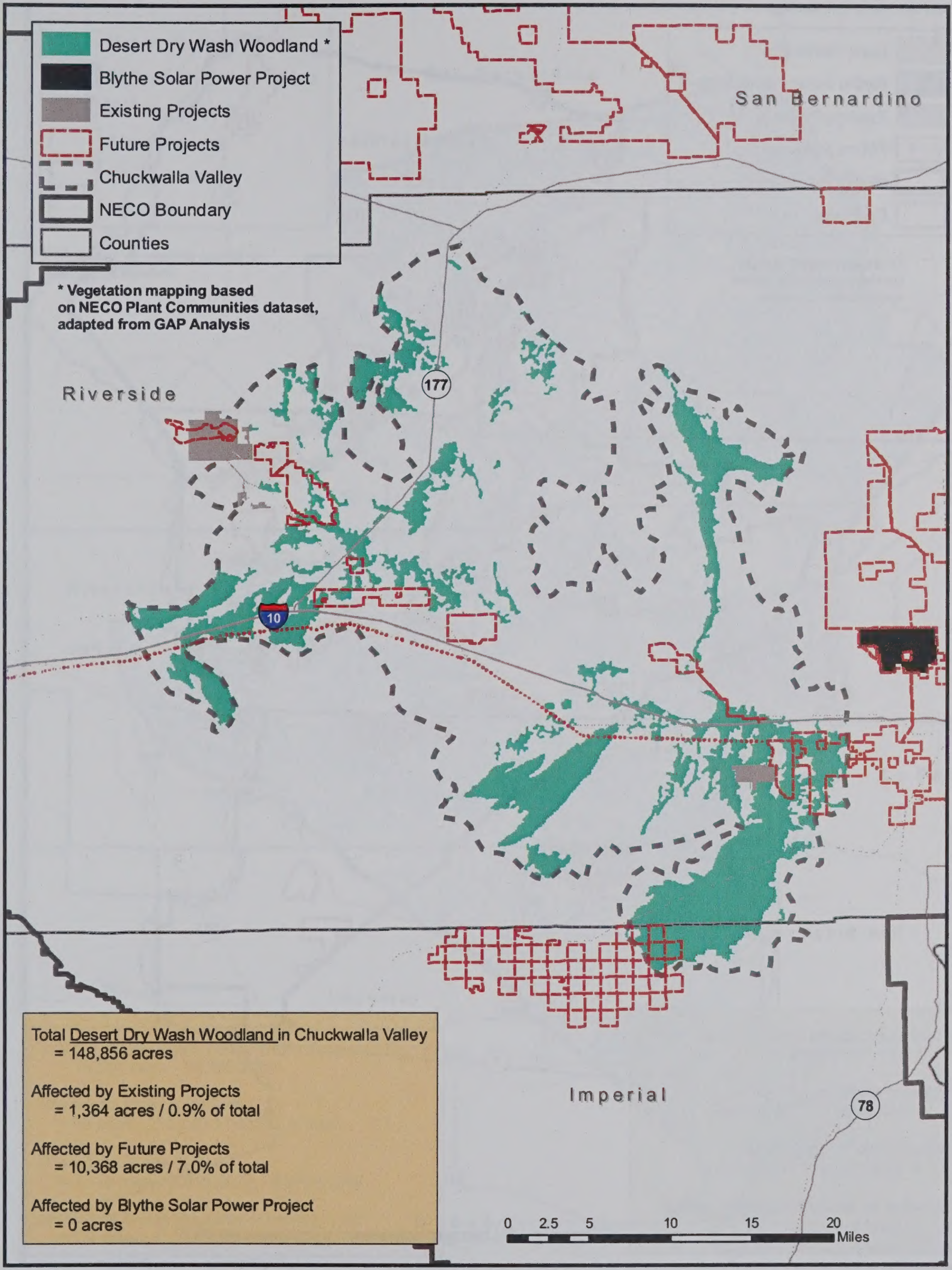
Figure 13c
Soils Map



SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 14
Plant Communities


Desert Dry Wash Woodland *
Blythe Solar Power Project
Existing Projects
Future Projects
Chuckwalla Valley
NECO Boundary
Counties
* Vegetation mapping based on NECO Plant Communities dataset, adapted from GAP Analysis
San Bernardino
Riverside
Imperial
177
10
78
0 2.5 5 10 15 20
Miles

Total Desert Dry Wash Woodland in Chuckwalla Valley
= 148,856 acres

Affected by Existing Projects
= 1,364 acres / 0.9% of total

Affected by Future Projects
= 10,368 acres / 7.0% of total

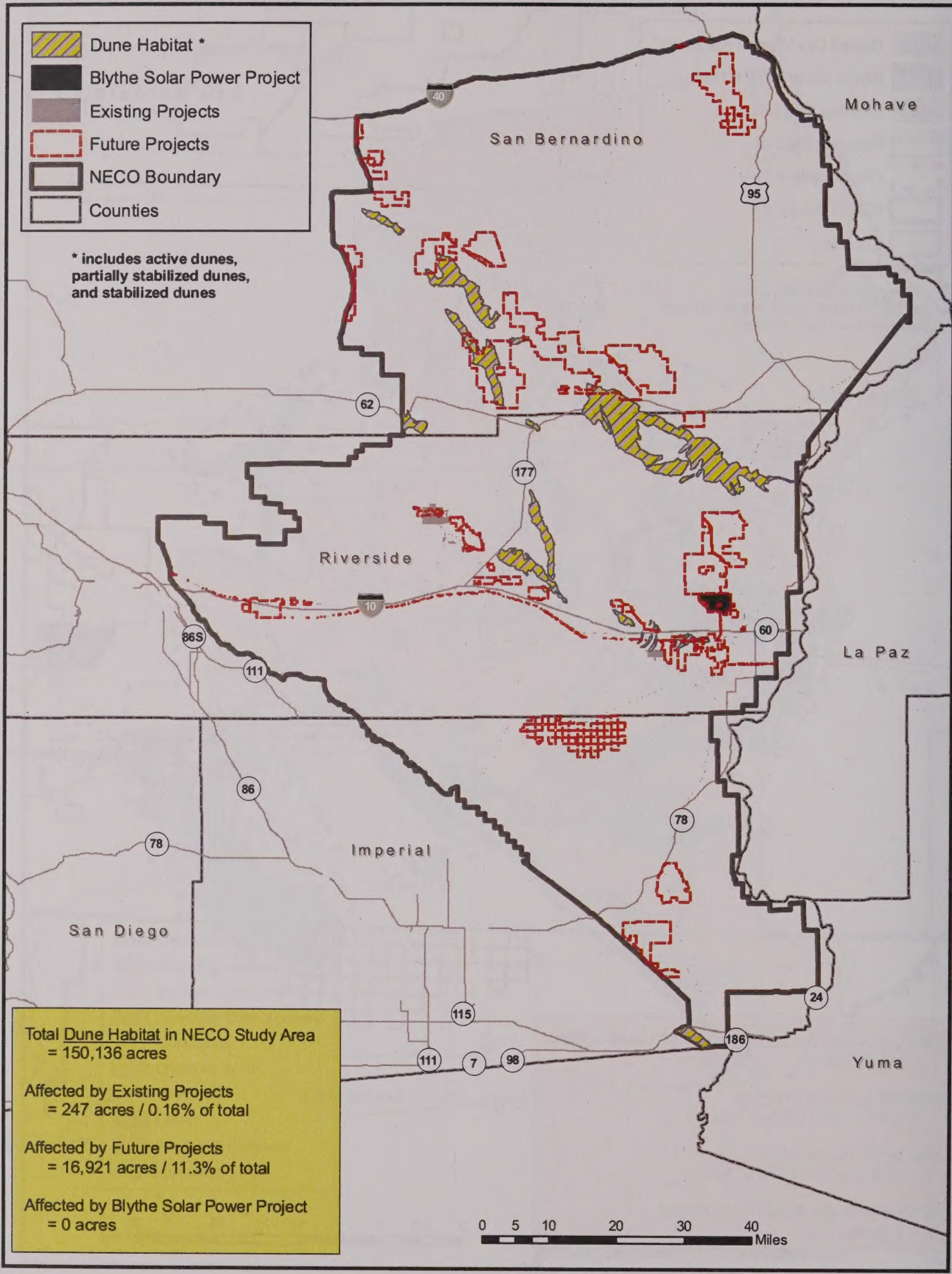
Affected by Blythe Solar Power Project
= 0 acres

SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 15

Desert Dry Wash Woodland - Chuchwalla Valley



Total Dune Habitat in NECO Study Area
= 150,136 acres

Affected by Existing Projects
= 247 acres / 0.16% of total

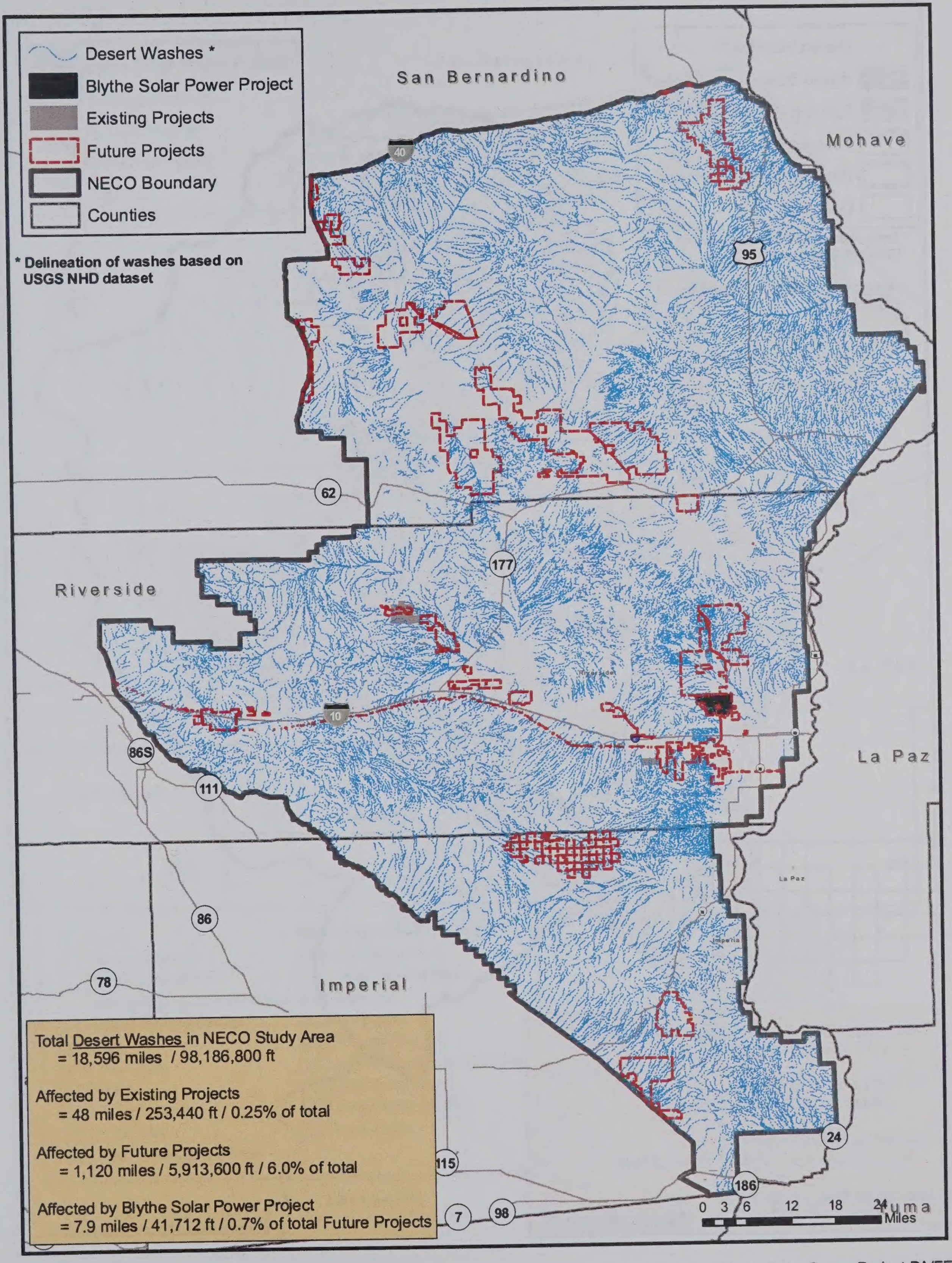
Affected by Future Projects
= 16,921 acres / 11.3% of total

Affected by Blythe Solar Power Project
= 0 acres

SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 16
Dune Habitat



Total Desert Washes in NECO Study Area
= 18,596 miles / 98,186,800 ft

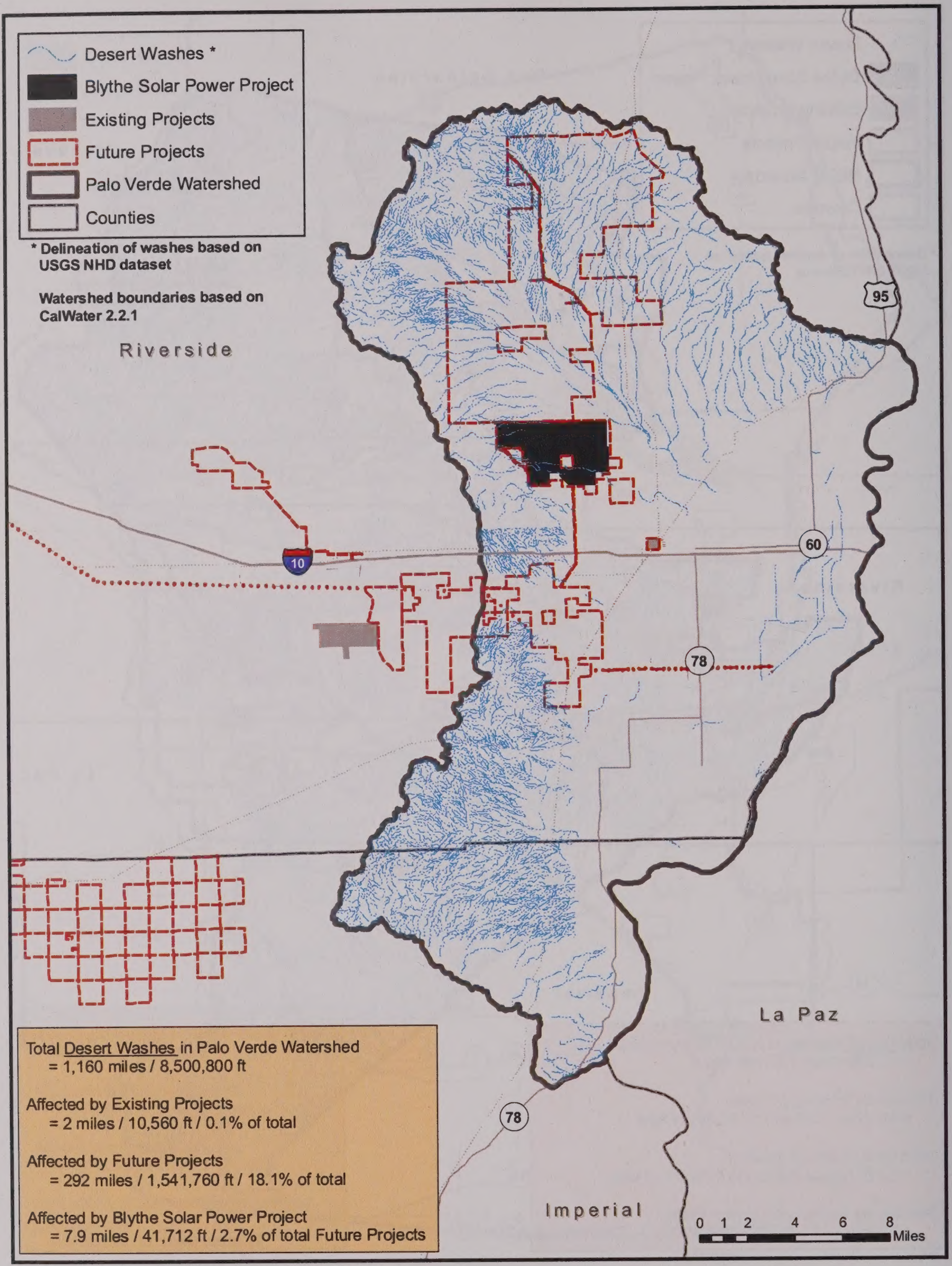
Affected by Existing Projects
= 48 miles / 253,440 ft / 0.25% of total

Affected by Future Projects
= 1,120 miles / 5,913,600 ft / 6.0% of total

Affected by Blythe Solar Power Project
= 7.9 miles / 41,712 ft / 0.7% of total Future Projects

SOURCE: CEC RSA June 2010

Figure 17
Desert Washes



* Delineation of washes based on USGS NHD dataset

Watershed boundaries based on CalWater 2.2.1

Total Desert Washes in Palo Verde Watershed
= 1,160 miles / 8,500,800 ft

Affected by Existing Projects
= 2 miles / 10,560 ft / 0.1% of total

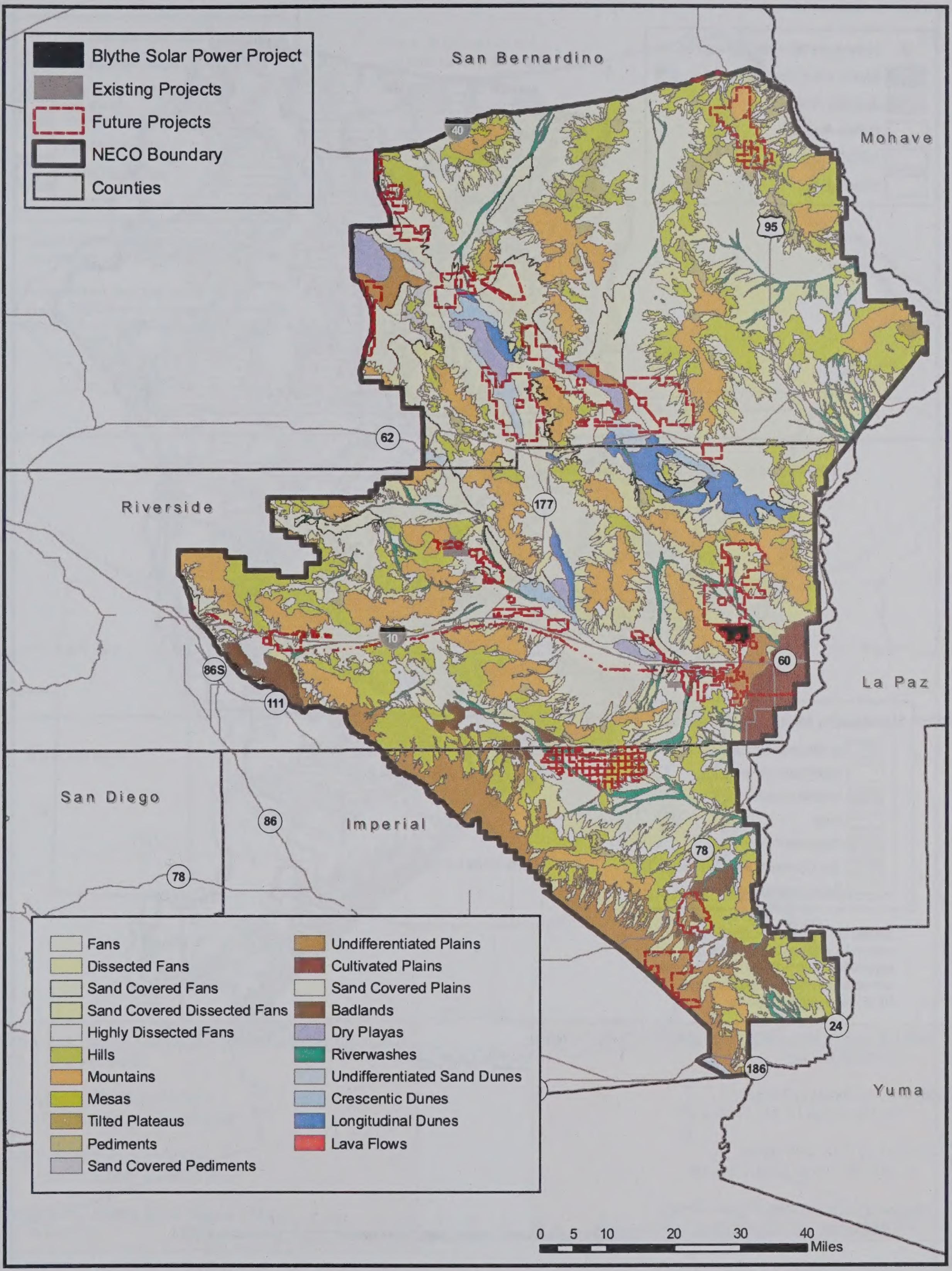
Affected by Future Projects
= 292 miles / 1,541,760 ft / 18.1% of total

Affected by Blythe Solar Power Project
= 7.9 miles / 41,712 ft / 2.7% of total Future Projects

SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

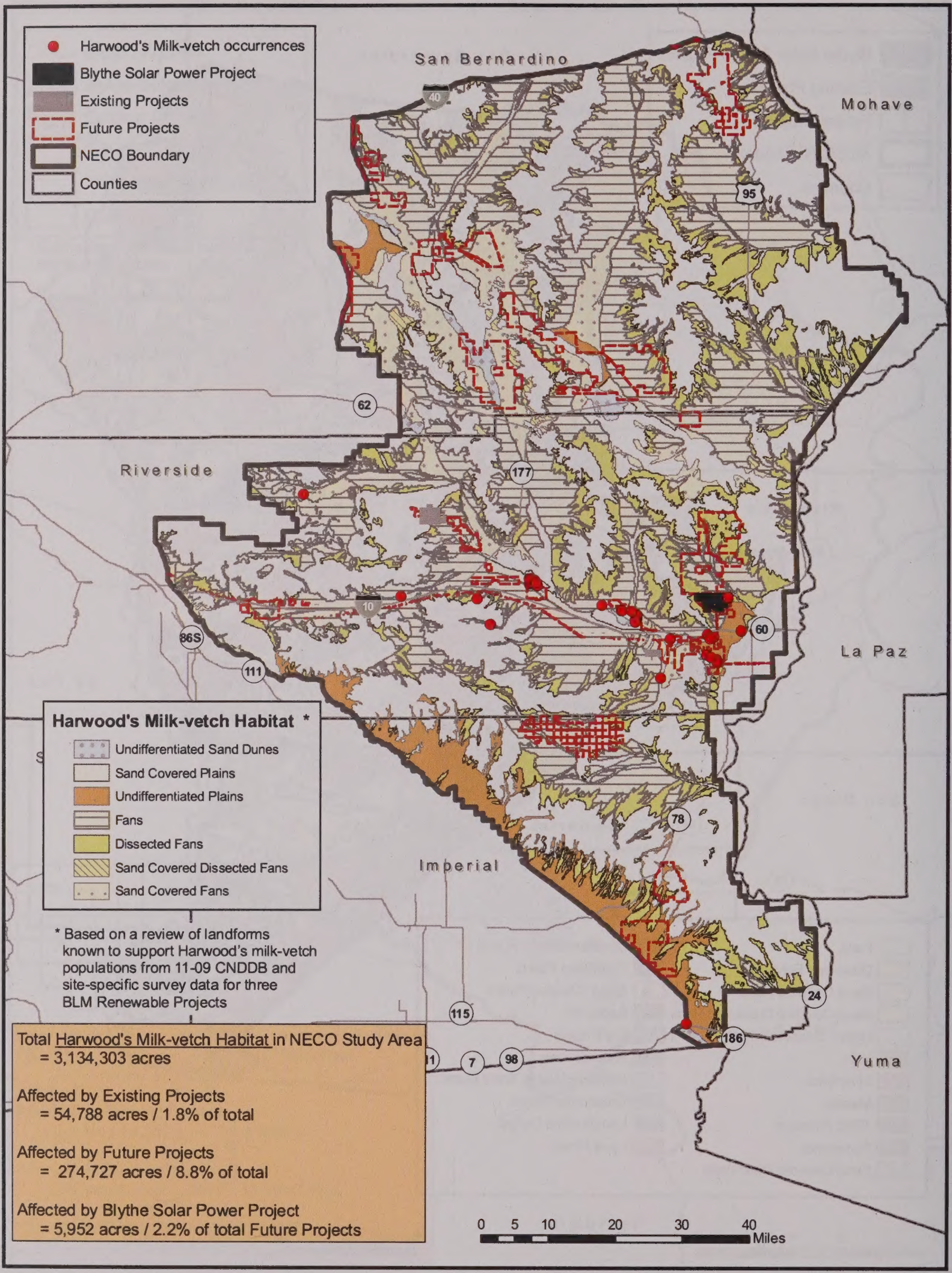
Figure 18
Desert Washes - Palo Verde Watershed



SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 19
Landforms



* Based on a review of landforms known to support Harwood's milk-vetch populations from 11-09 CNDDB and site-specific survey data for three BLM Renewable Projects

Total Harwood's Milk-vetch Habitat in NECO Study Area
= 3,134,303 acres

Affected by Existing Projects
= 54,788 acres / 1.8% of total

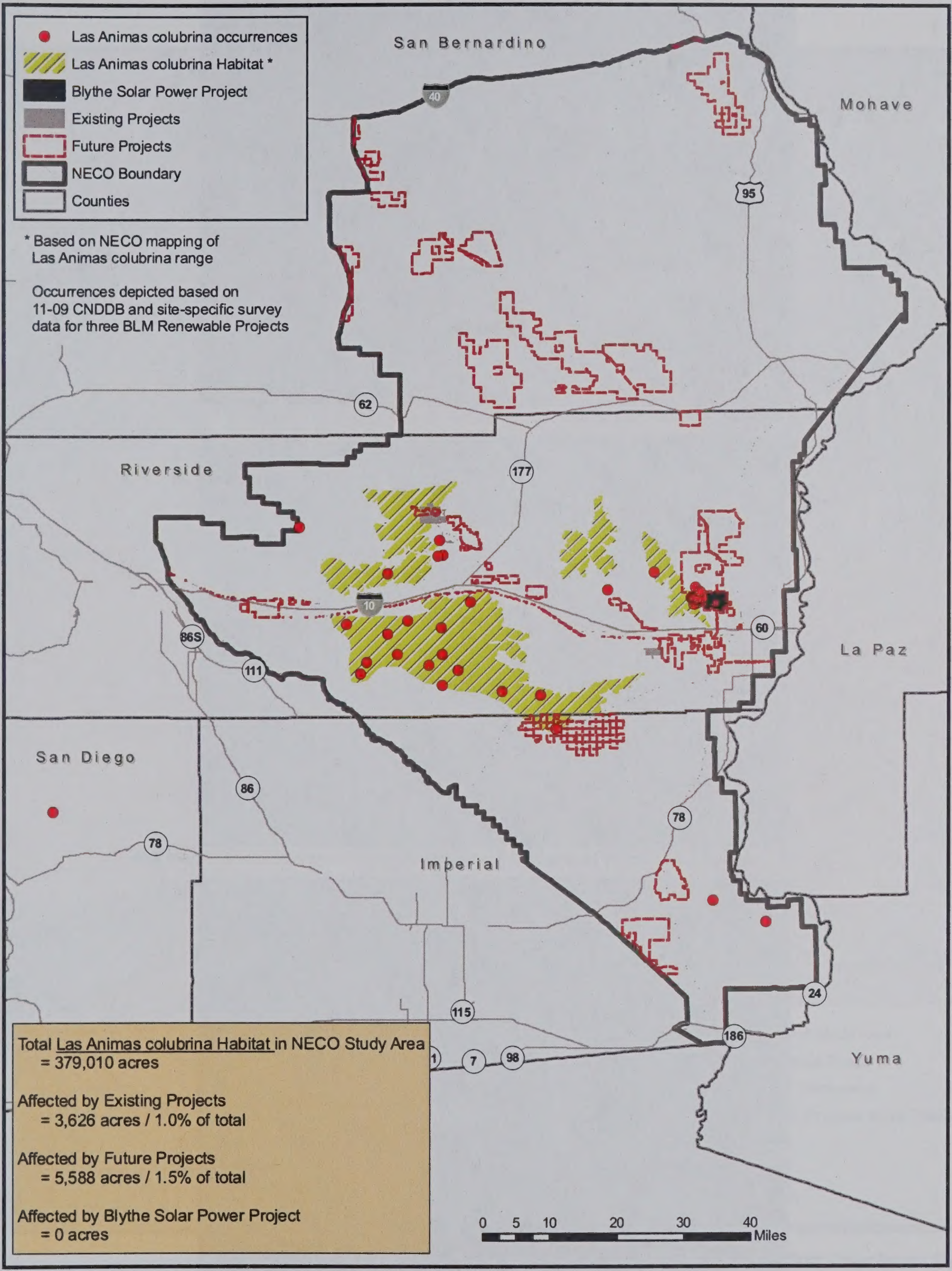
Affected by Future Projects
= 274,727 acres / 8.8% of total

Affected by Blythe Solar Power Project
= 5,952 acres / 2.2% of total Future Projects

SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 20
Harwood's Milk-vetch Habitat



* Based on NECO mapping of Las Animas colubrina range

Occurrences depicted based on 11-09 CNDDB and site-specific survey data for three BLM Renewable Projects

Total Las Animas colubrina Habitat in NECO Study Area
= 379,010 acres

Affected by Existing Projects
= 3,626 acres / 1.0% of total

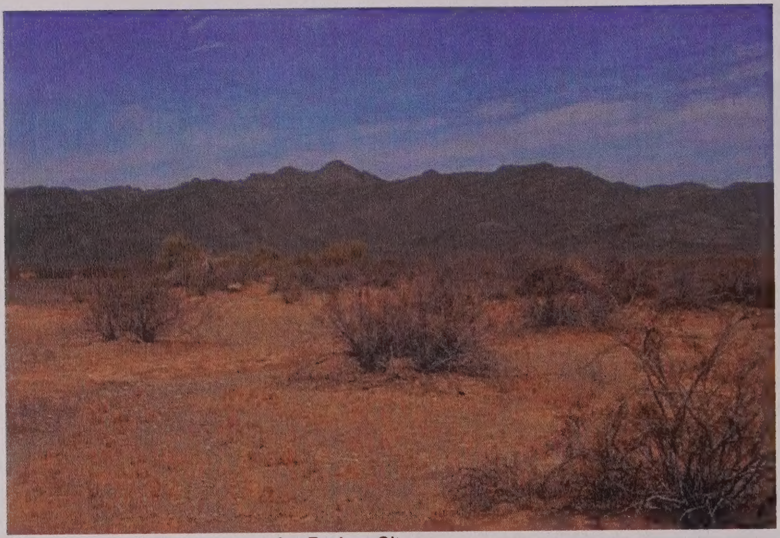
Affected by Future Projects
= 5,588 acres / 1.5% of total

Affected by Blythe Solar Power Project
= 0 acres

SOURCE: CEC RSA June 2010

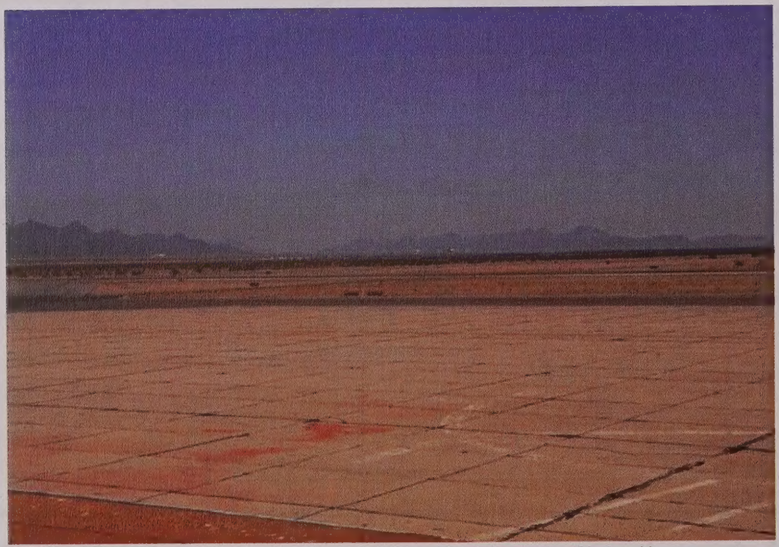
Blythe Solar Power Project PA/FEIS

Figure 21
Las Animas Colubrina Habitat



Characteristic Landscape on the Project Site

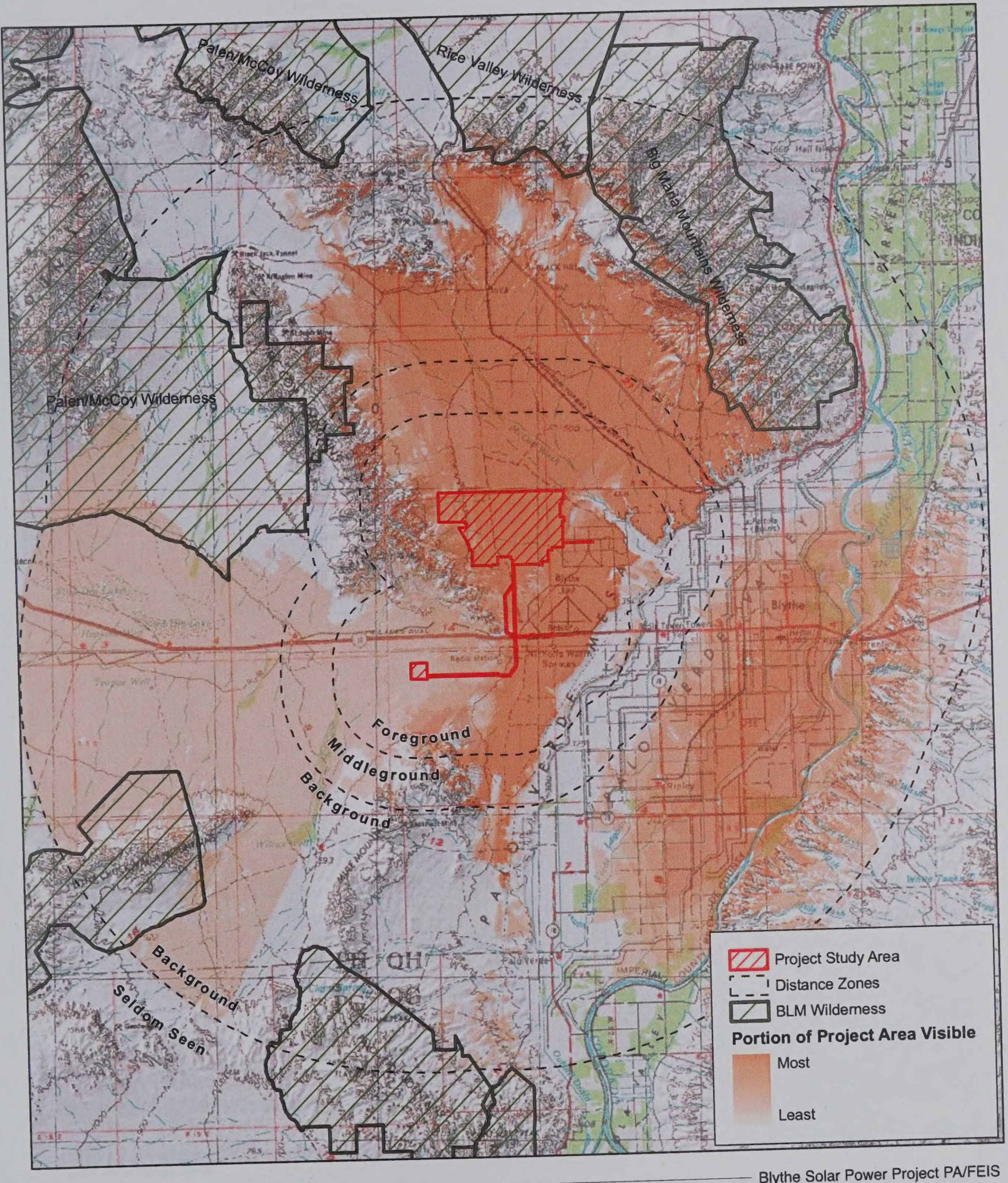
Elevated View from McCoy Mountains Wilderness Looking East-Northeast toward Project Area



Ground Level View of the Project Area Looking North from the Blythe Airport

SOURCE: Solar Millennium AFC August 2009, CEC RSA June 2010

Blythe Solar Power Project PA/FEIS
Figure 22
Landscape Context Shots

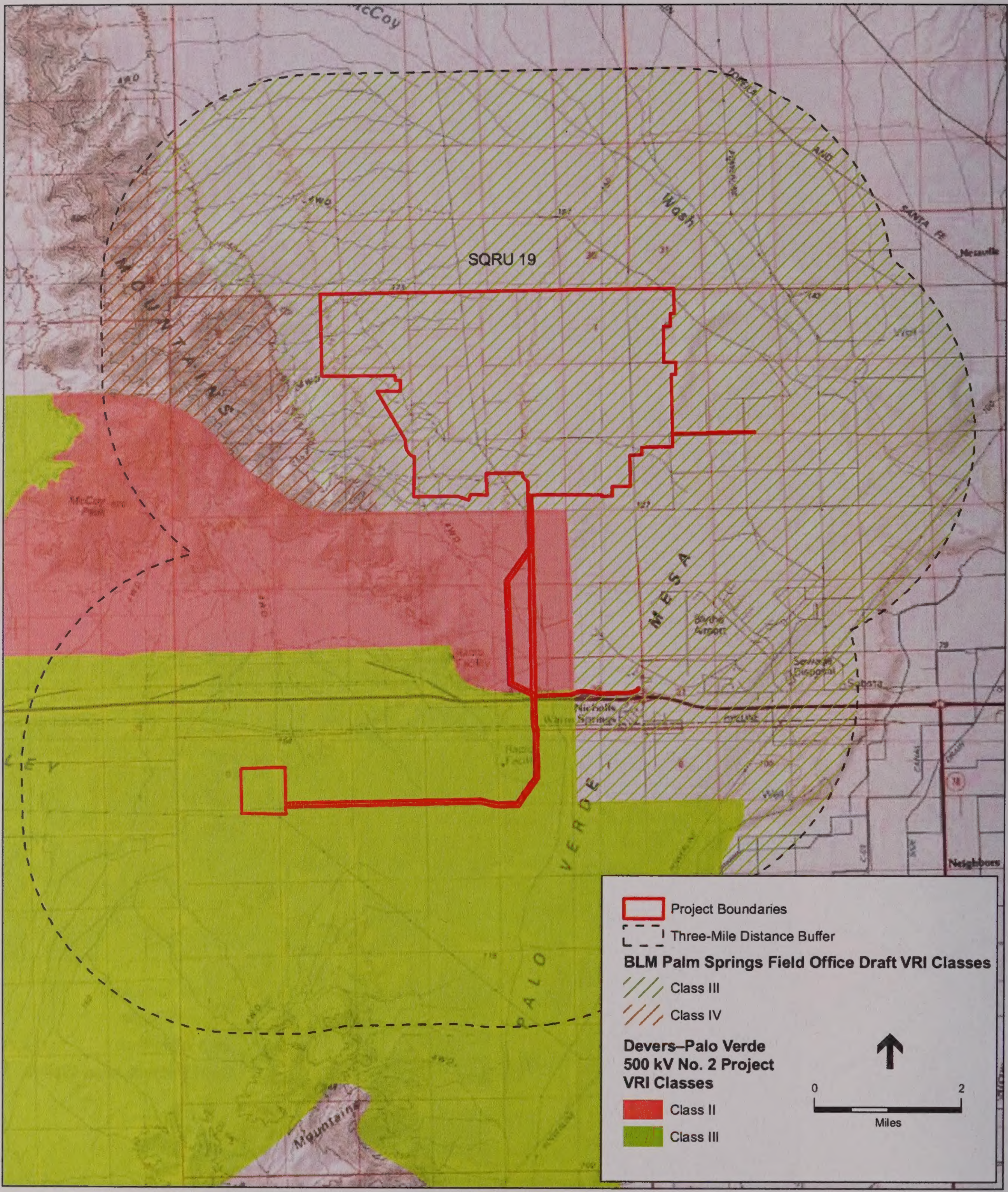


Palo Verde Solar I AFC August 2009; ESA 2010

Blythe Solar Power Project PA/FEIS

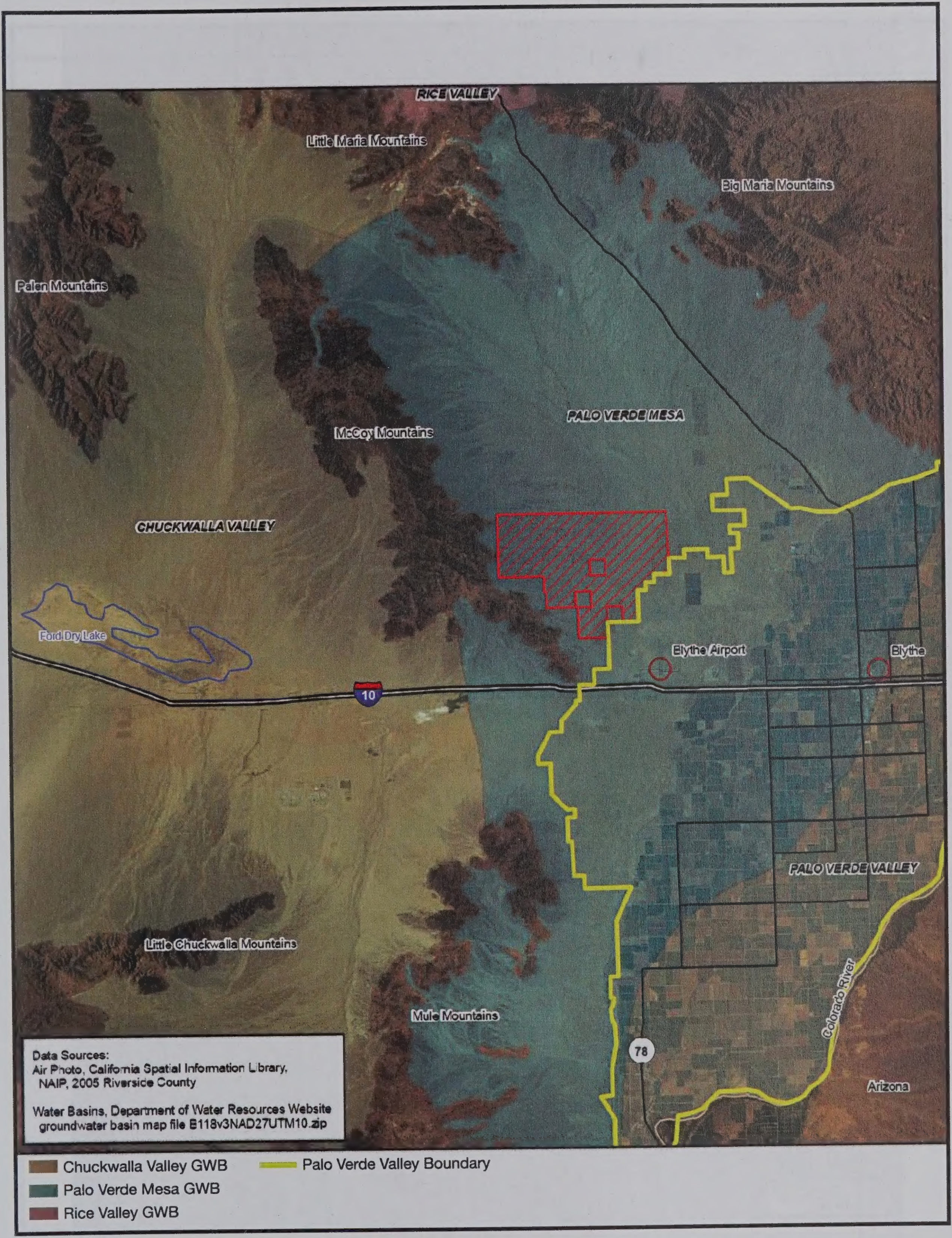
Figure 23

Project Study Area and Viewshed



Palo Verde Solar I AFC August 2009; ESA 2010

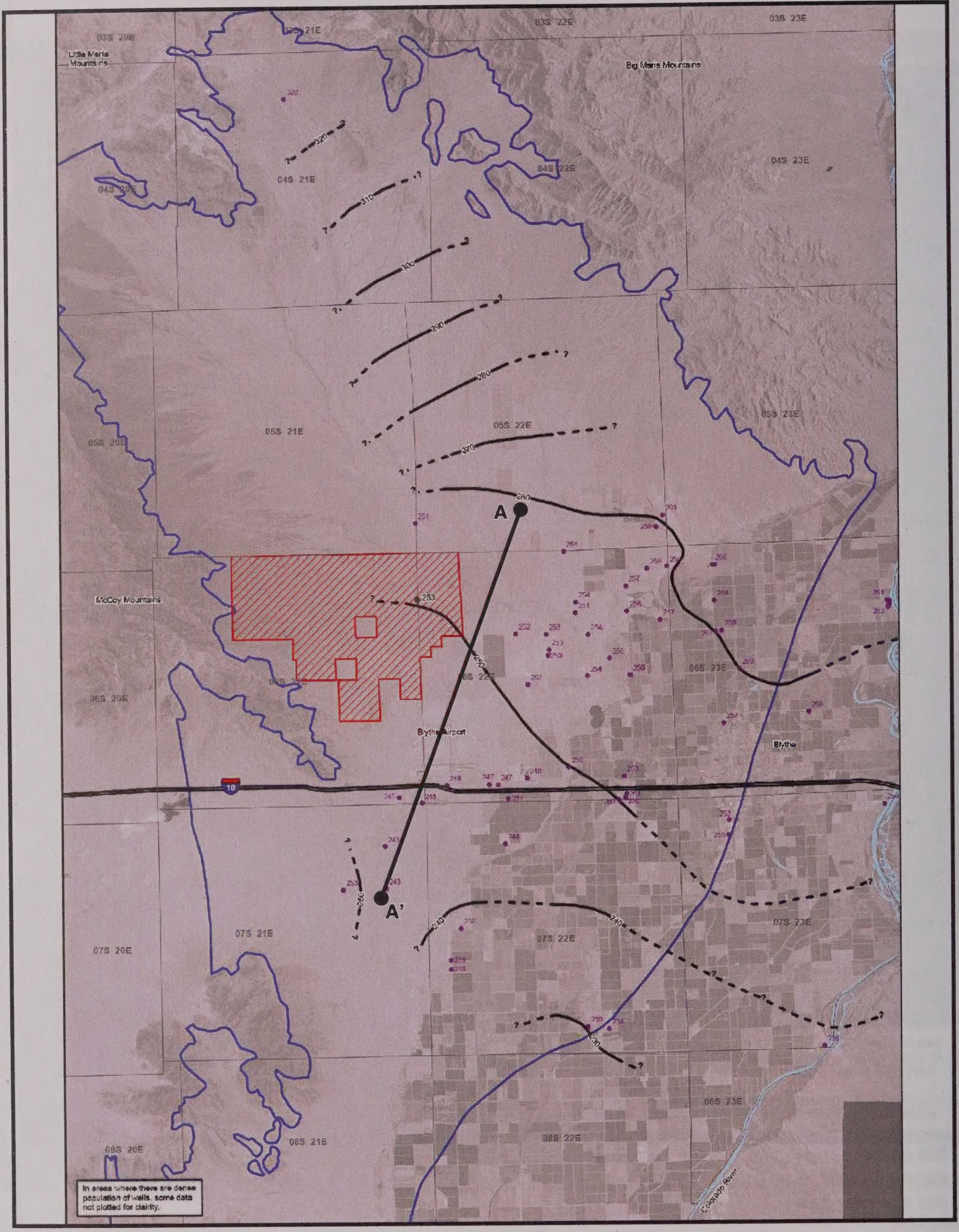
Figure 24
VRI Classes of the Project



SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 25
Palo Verde Mesa Groundwater Basin

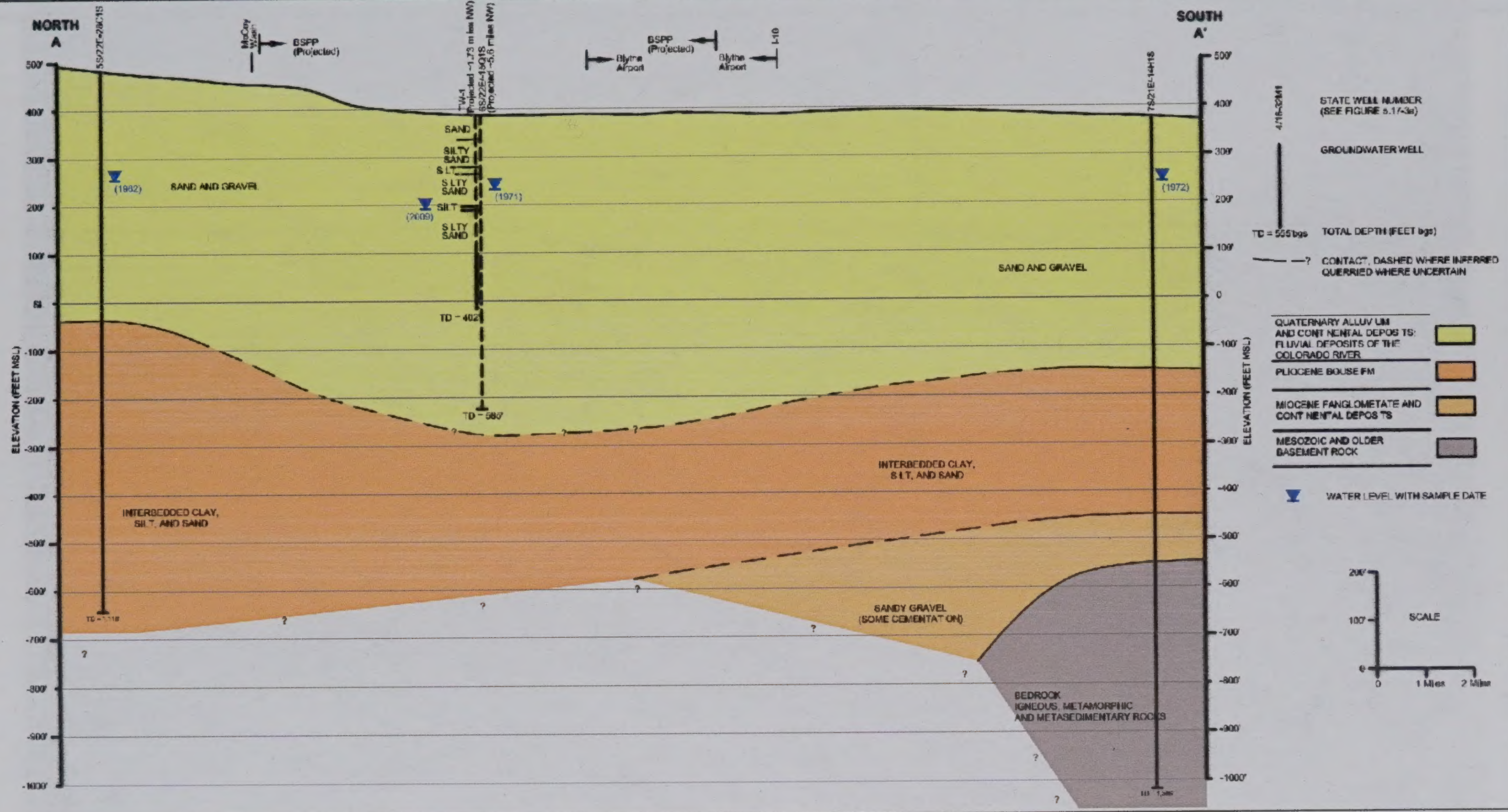


In areas where there are dense population of wells, some data not plotted for clarity.

SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 26
Groundwater Contour Map -
Palo Verde Mesa Groundwater Basin

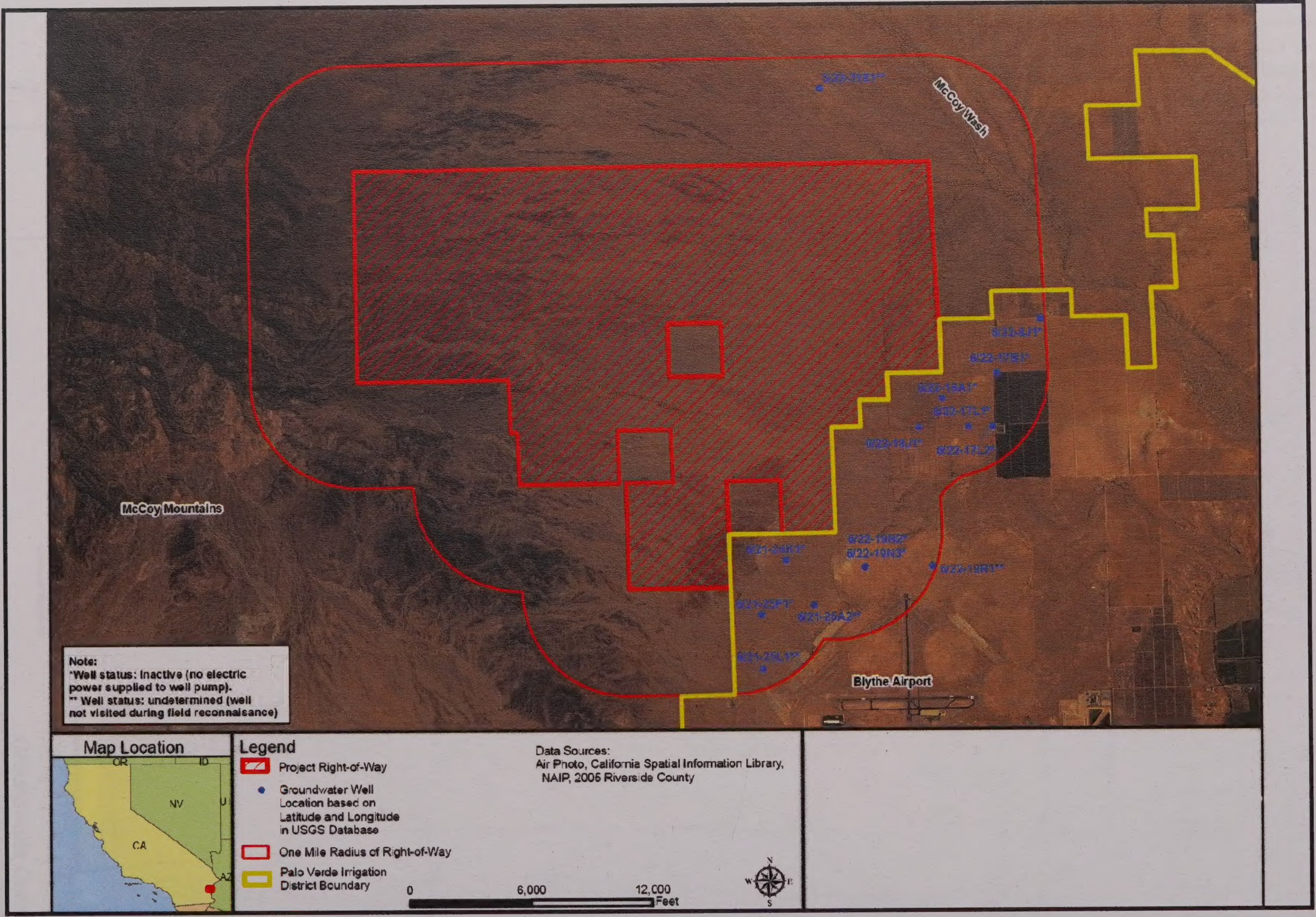

NORTH
A
5S/22E-28C1S
McCoy Wash
BSPP (Projected)
TW-1 Projected ~1.73 miles NW)
6S/22E-15Q1S (Projected ~5.6 miles NW)
BSPP (Projected)
Blythe Airport
Blythe Airport
I-10
SOUTH
A'
7S/21E-14H1S
500'
400'
300'
200'
100'
SL
-100'
-200'
-300'
-400'
-500'
-600'
-700'
-800'
-900'
-1000'
ELEVATION (FEET MSL)
0
SAND AND GRAVEL
(1982)
SAND
SILTY SAND
SILT
SILTY SAND
SILT
SILTY SAND
(2009)
(1971)
(1972)
TD ~ 402'
TD ~ 587'
SAND AND GRAVEL
INTERBEDDED CLAY, SILT, AND SAND
INTERBEDDED CLAY, SILT, AND SAND
SANDY GRAVEL (SOME CEMENTATION)
BEDROCK IGNEOUS, METAMORPHIC AND METASEDIMENTARY ROCKS
?
4/16-32M1
STATE WELL NUMBER (SEE FIGURE 5.17-3a)
GROUNDWATER WELL
TD = 555'bgs
TOTAL DEPTH (FEET bgs)
CONTACT, DASHED WHERE INFERRED QUERRIED WHERE UNCERTAIN
QUATERNARY ALLUVIUM AND CONTINENTAL DEPOSITS; FLUVIAL DEPOSITS OF THE COLORADO RIVER
PLIOCENE BOUSE FM
MIOCENE FANGLOMETATE AND CONTINENTAL DEPOSITS
MESOZOIC AND OLDER BASEMENT ROCK
WATER LEVEL WITH SAMPLE DATE
200'
100'
0
SCALE
0
1 Miles
2 Miles

SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 27

Geologic Cross Section A-A'



Note:
*Well status: Inactive (no electric power supplied to well pump).
** Well status: undetermined (well not visited during field reconnaissance)

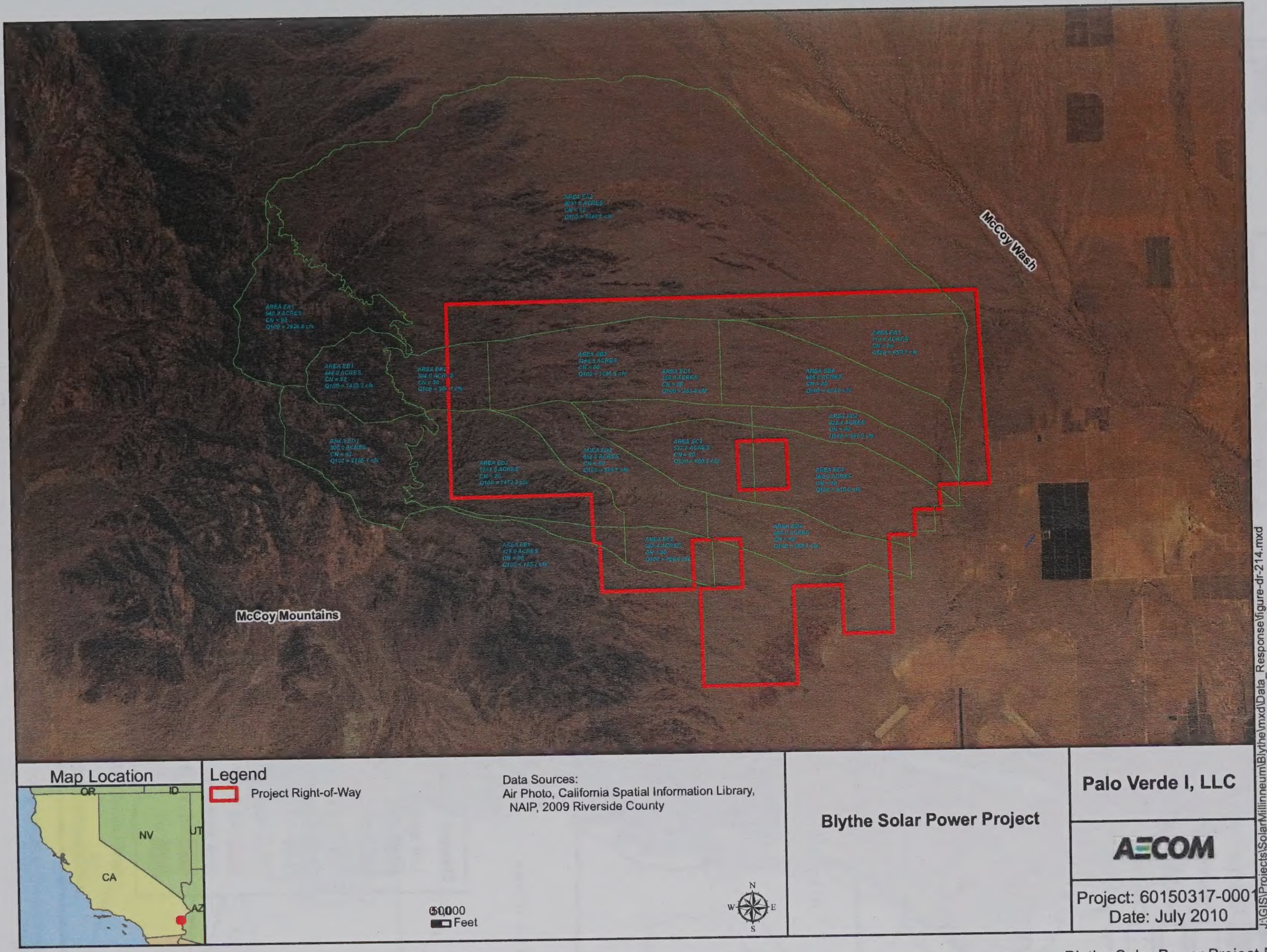
Data Sources:
Air Photo, California Spatial Information Library, NAIP, 2005 Riverside County

SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 28

Location of Wells in Proximity to the BSPP



Legend

🟥 Project Right-of-Way

Data Sources:
Air Photo, California Spatial Information Library,
NAIP, 2009 Riverside County

Blythe Solar Power Project

Palo Verde I, LLC

AECOM

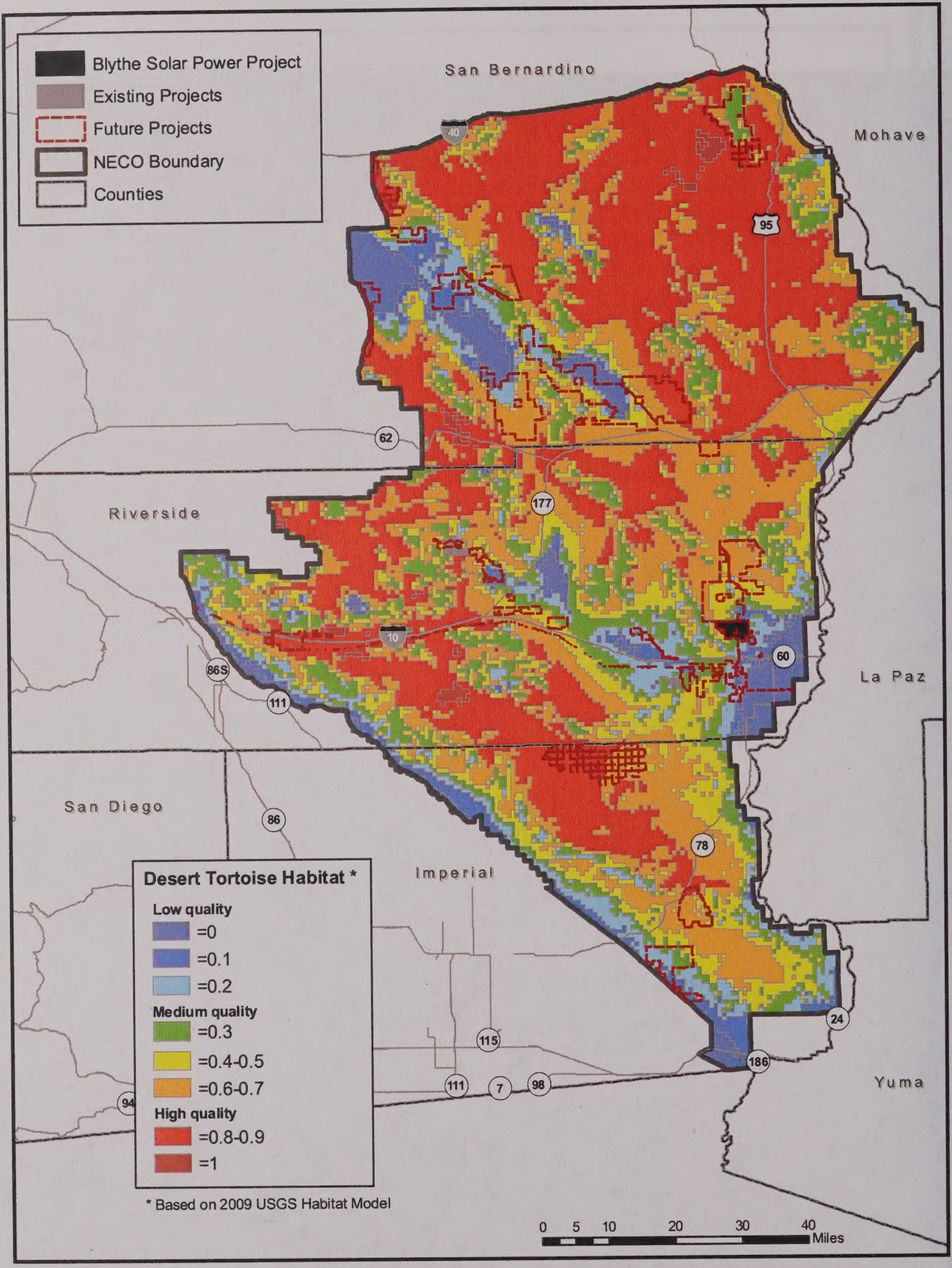
Project: 60150317-0001
Date: July 2010

J:\GIS\Projects\SolarMillinneum\Blythe\mxd\Data_Response\figure-dr-214.mxd

SOURCE: BLM 2010

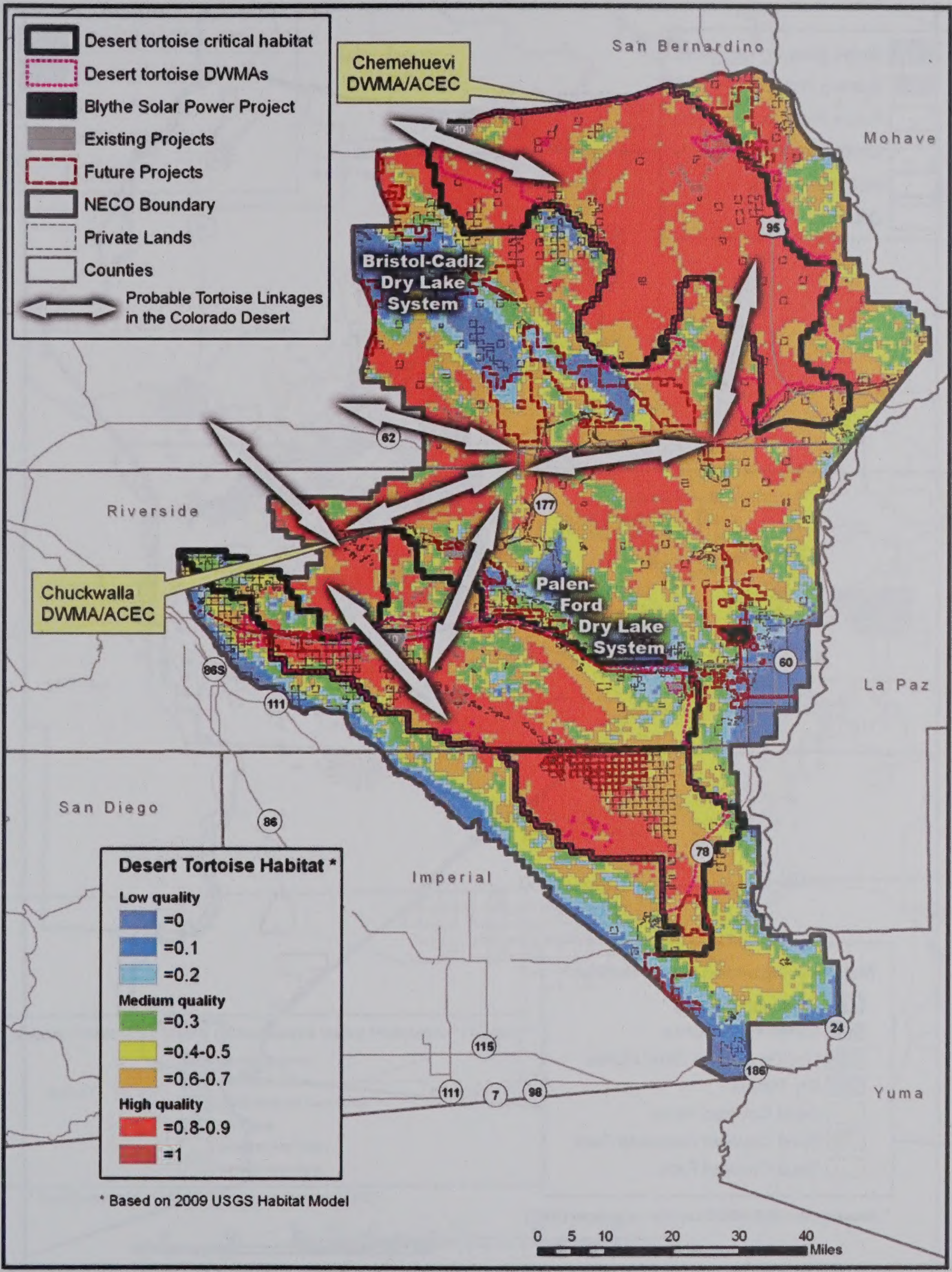
Figure 29

Watershed Boundaries and Sub-Basin Delineations



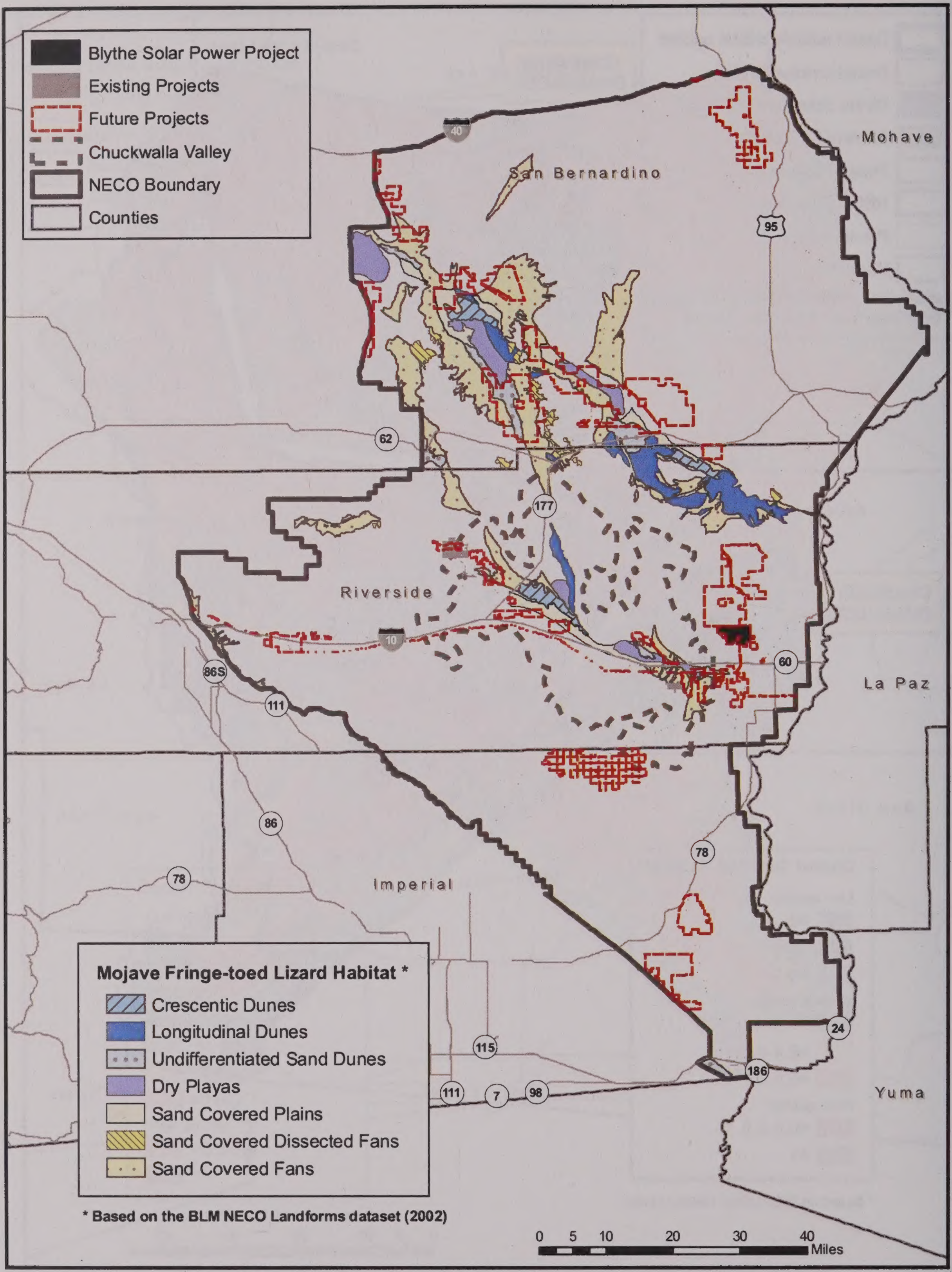
SOURCE: CEC RSA June 2010

Figure 30
Desert Tortoise Habitat



SOURCE: CEC RSA June 2010

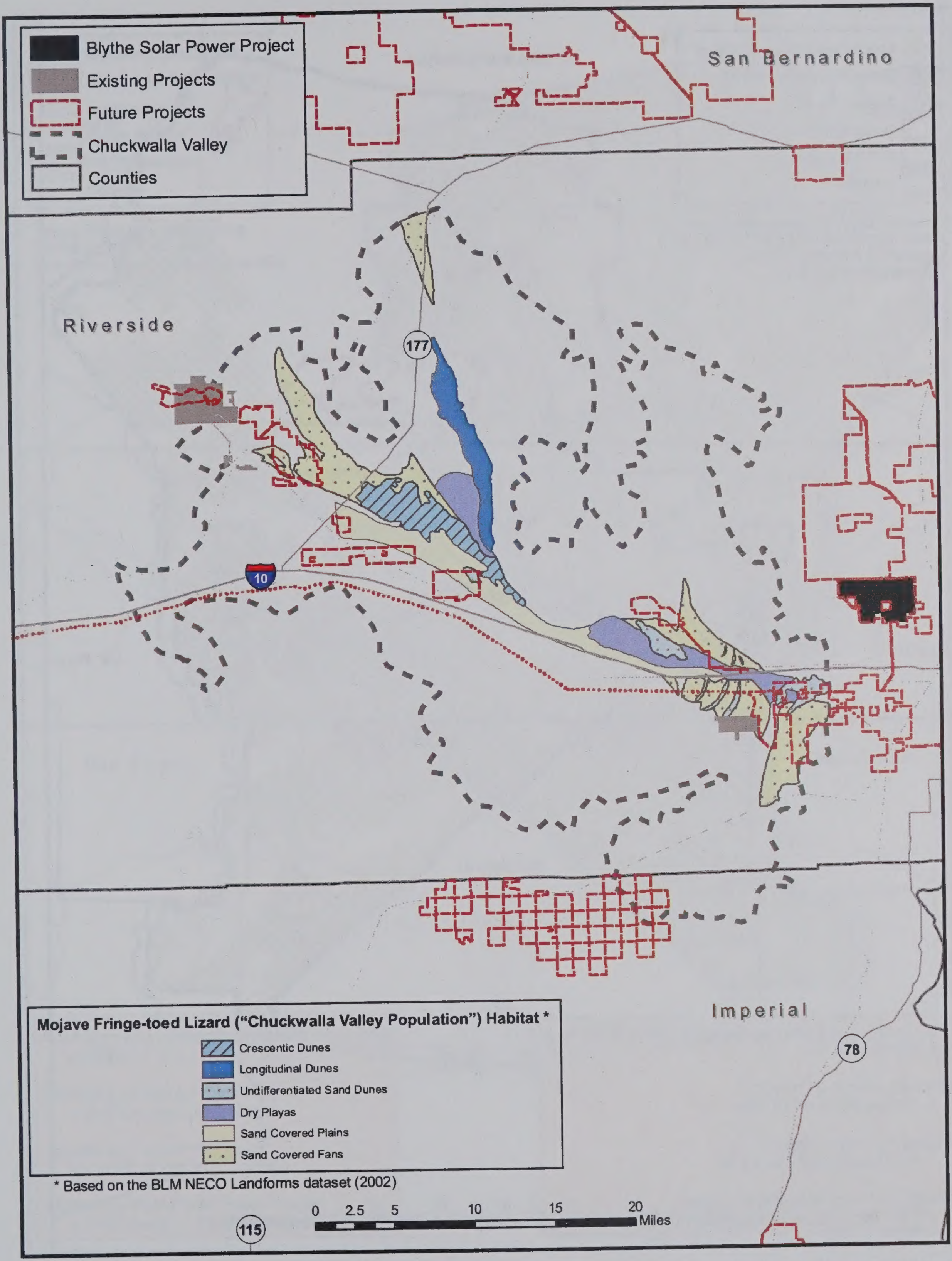
Figure 31
Desert Tortoise - Chuckwalla to Chemehuevi DWMAs and Critical Habitat



SOURCE: CEC RSA June 2010

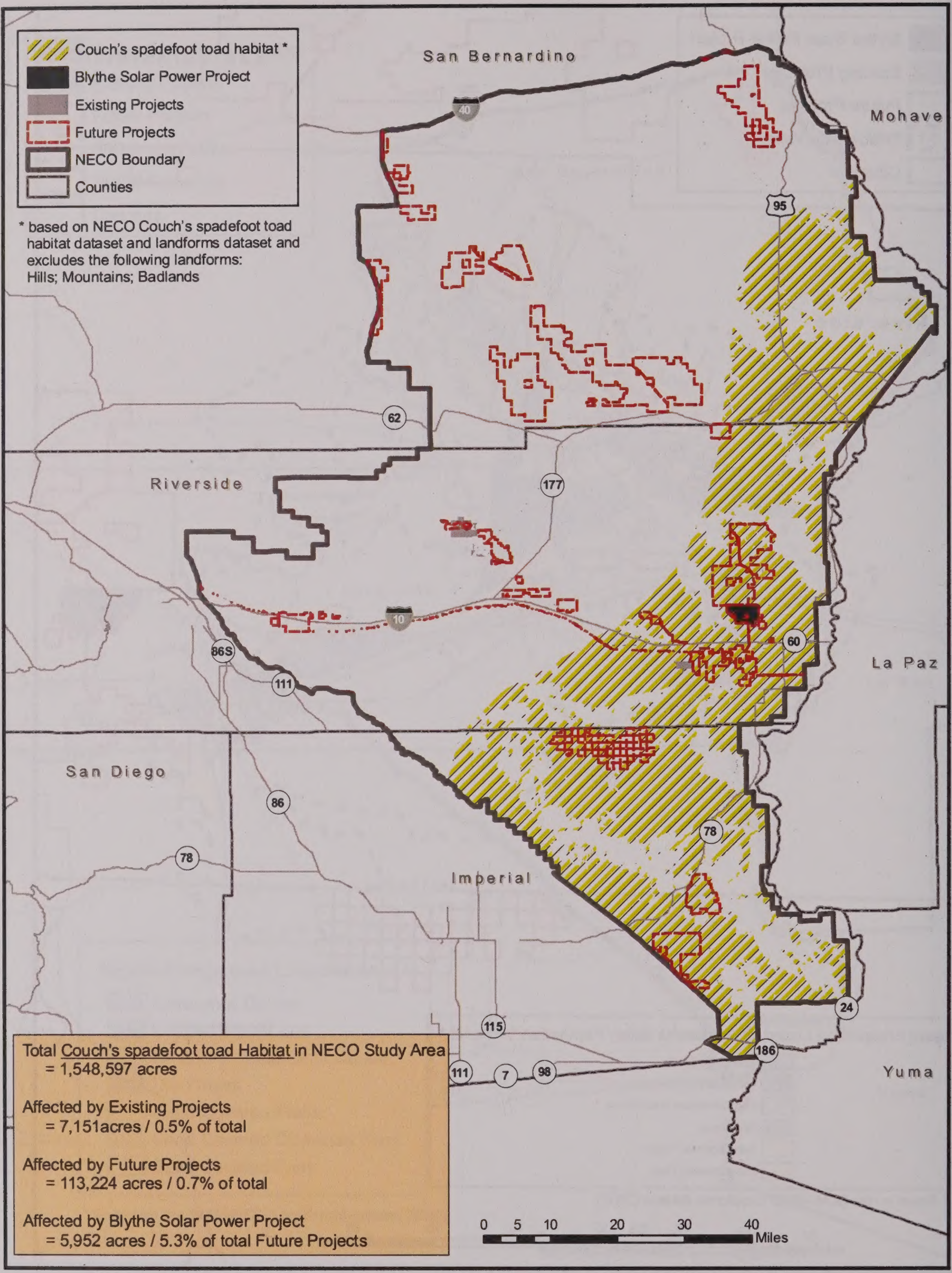
Blythe Solar Power Project PA/FEIS

Figure 32
Mojave Fringe-toed Lizard Habitat



SOURCE: CEC RSA June 2010

Figure 33
Mojave Fringe-toed Lizard Habitat -
Chuckwalla Population



* based on NECO Couch's spadefoot toad habitat dataset and landforms dataset and excludes the following landforms: Hills; Mountains; Badlands

Total Couch's spadefoot toad Habitat in NECO Study Area
= 1,548,597 acres

Affected by Existing Projects
= 7,151acres / 0.5% of total

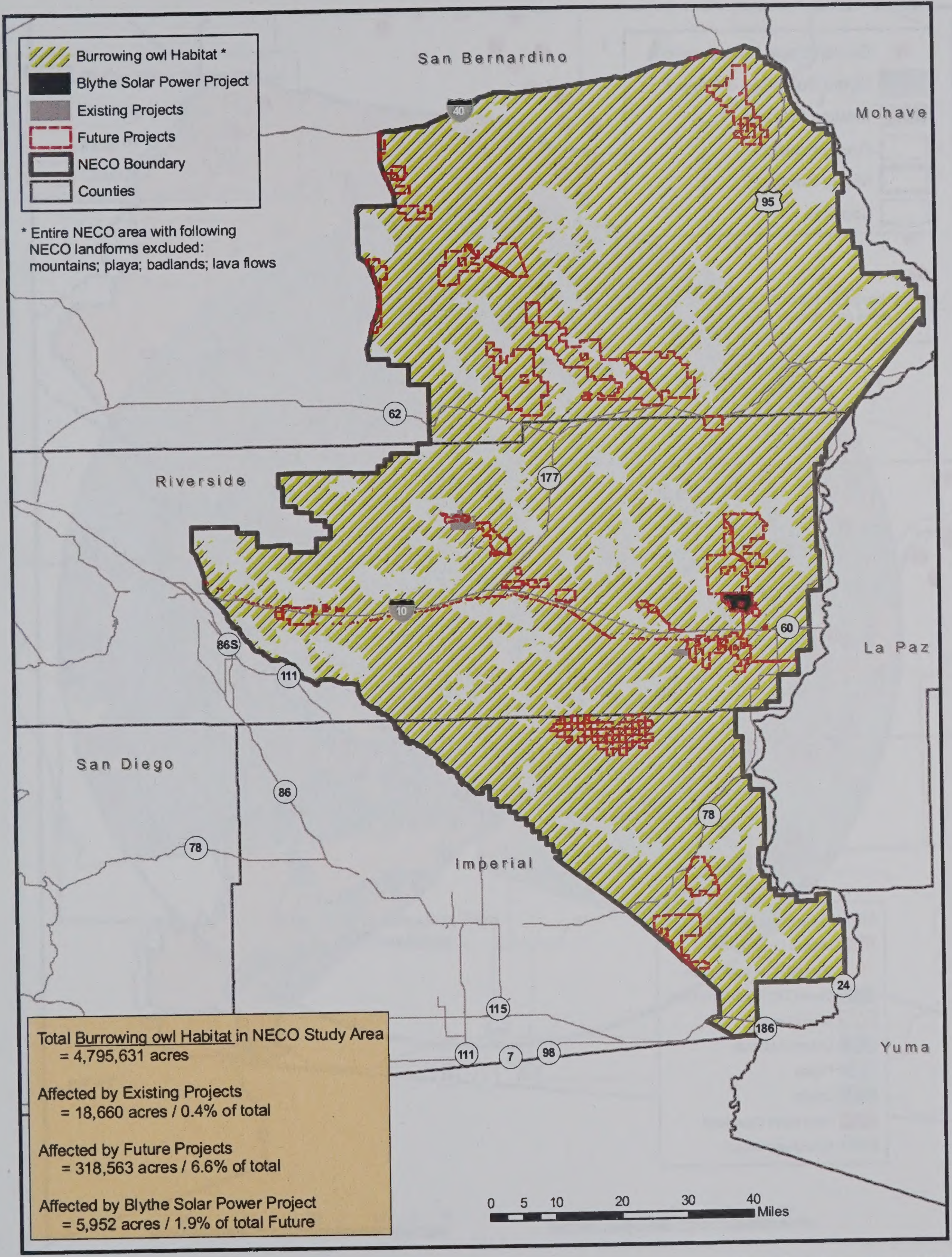
Affected by Future Projects
= 113,224 acres / 0.7% of total

Affected by Blythe Solar Power Project
= 5,952 acres / 5.3% of total Future Projects

SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 34
Couch's Spadefoot Toad Habitat



Total Burrowing owl Habitat in NECO Study Area
= 4,795,631 acres

Affected by Existing Projects
= 18,660 acres / 0.4% of total

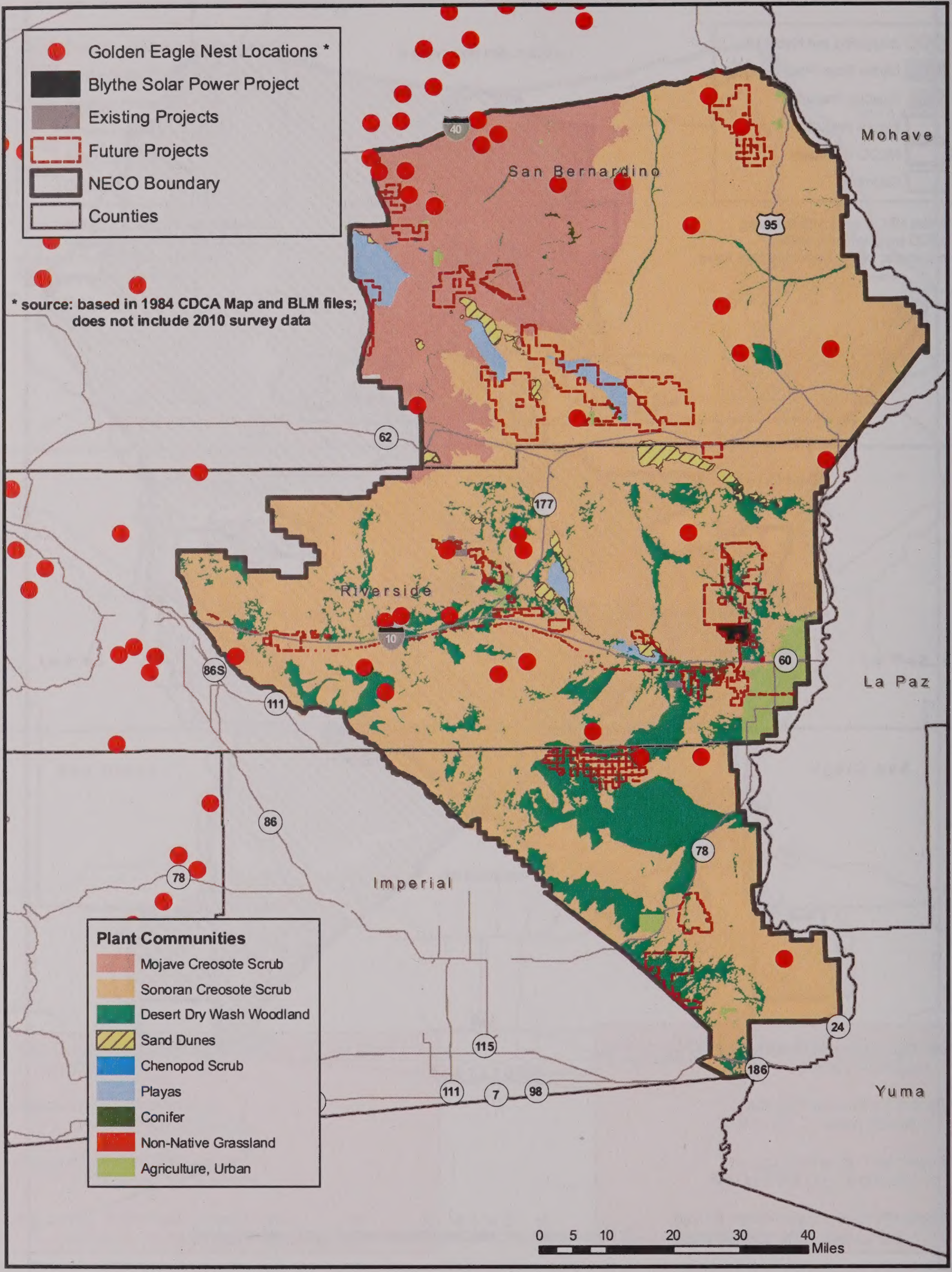
Affected by Future Projects
= 318,563 acres / 6.6% of total

Affected by Blythe Solar Power Project
= 5,952 acres / 1.9% of total Future

SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

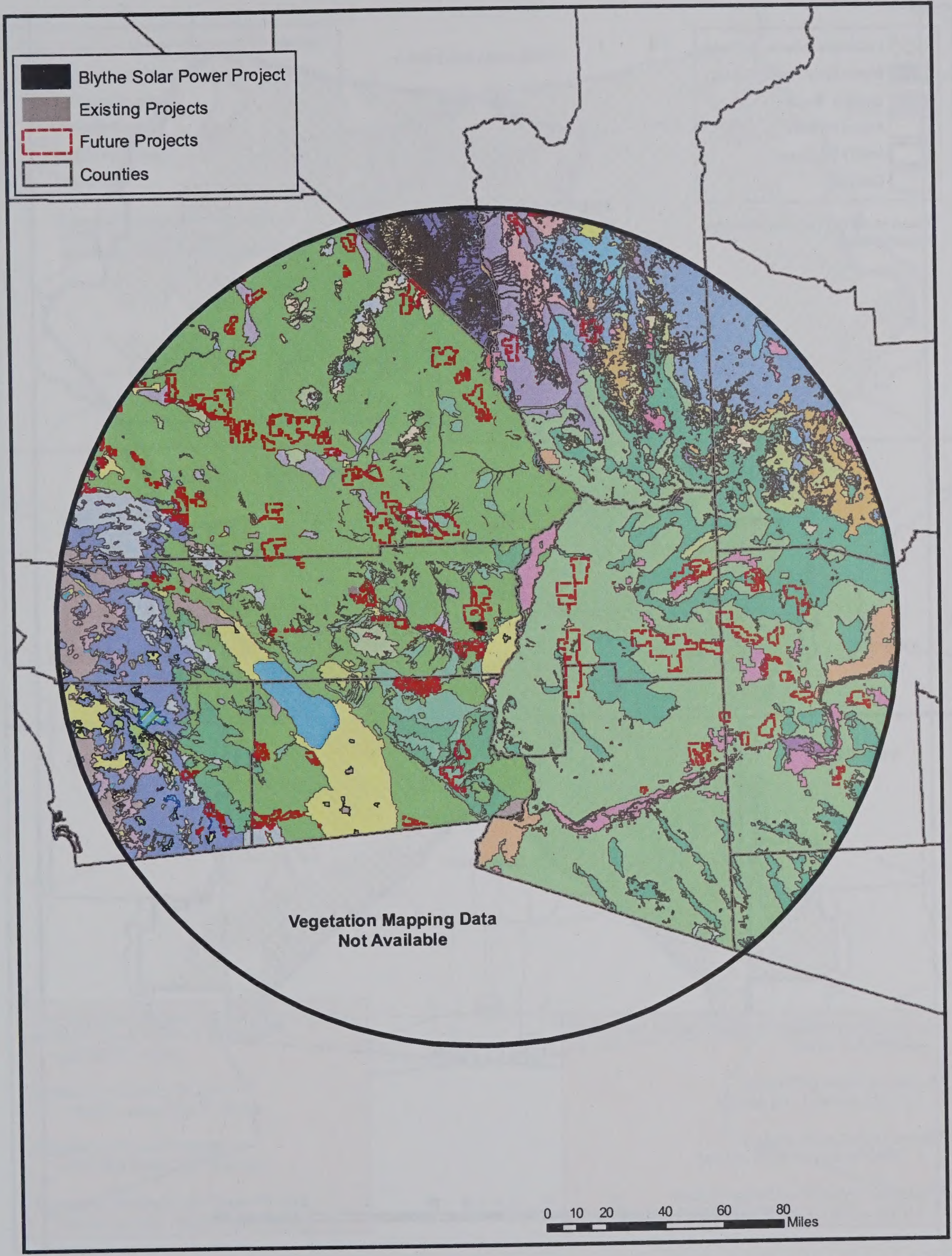
Figure 35
Burrowing Owl Habitat



SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 36
Golden Eagle Nest Locations

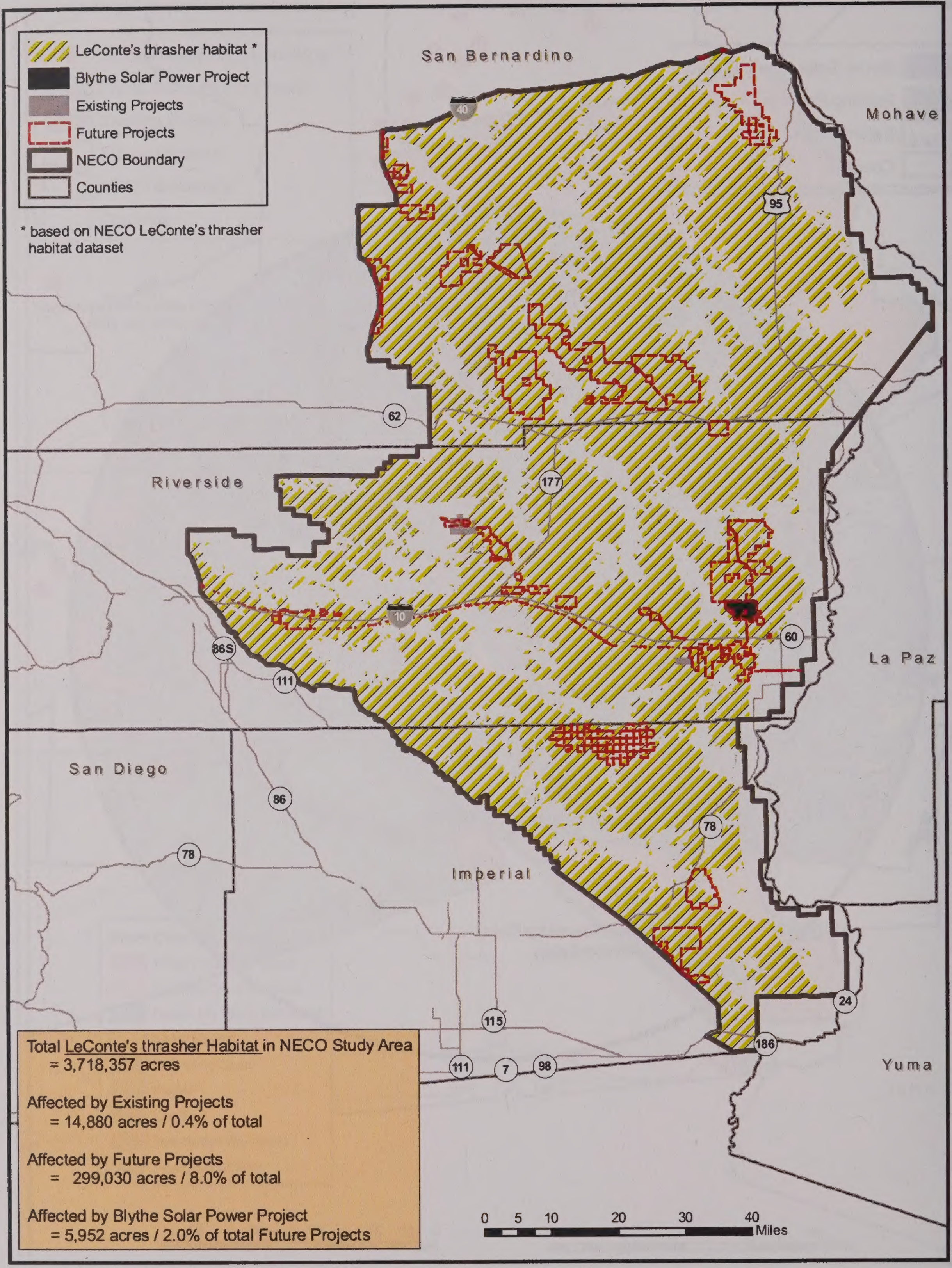

Blythe Solar Power Project
Existing Projects
Future Projects
Counties
Vegetation Mapping Data Not Available
0 10 20 40 60 80
Miles

SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 37

Golden Eagle Foraging Habitat within 140-Mile Radius of Proposed Areas



Total LeConte's thrasher Habitat in NECO Study Area
= 3,718,357 acres

Affected by Existing Projects
= 14,880 acres / 0.4% of total

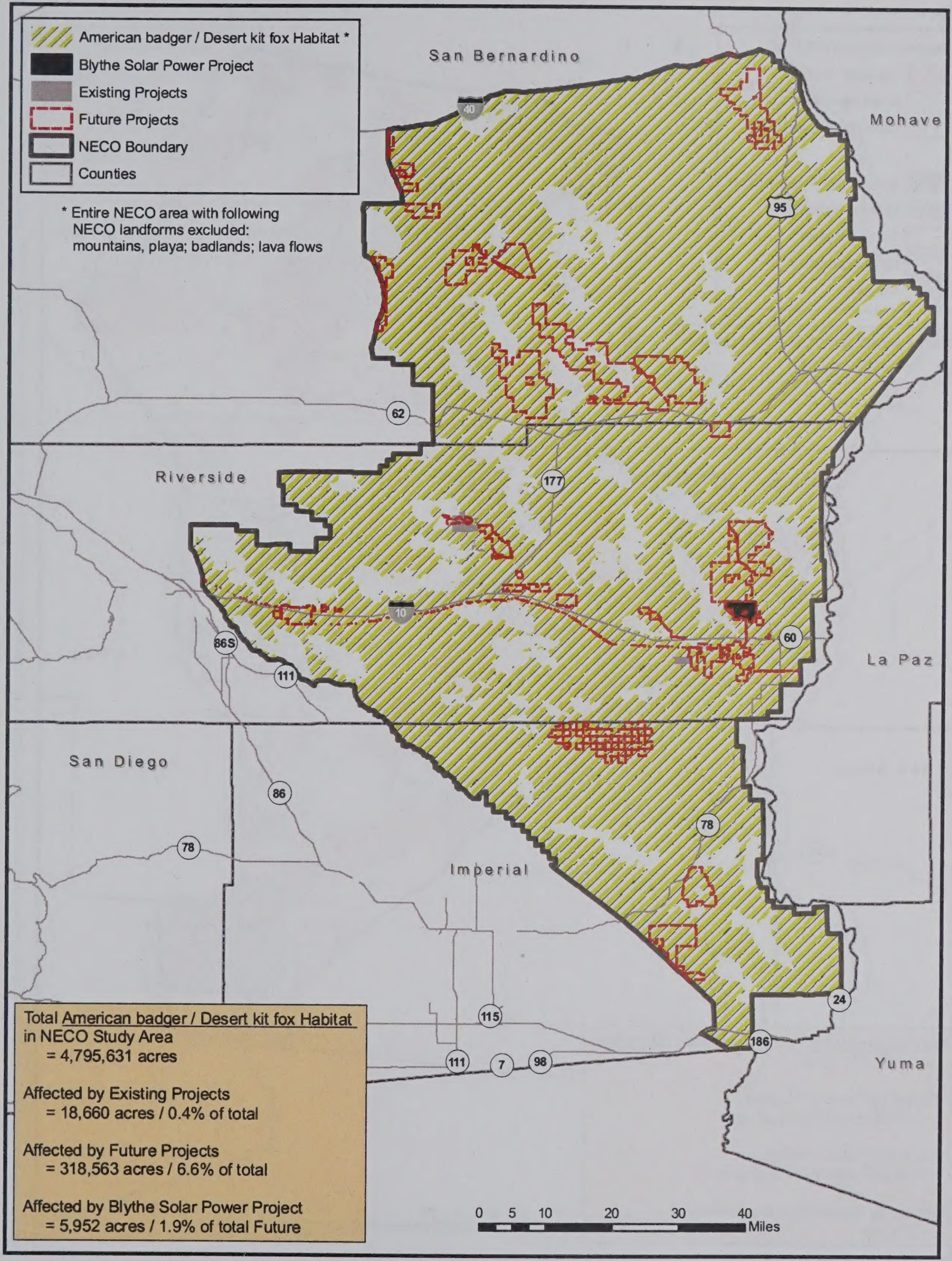
Affected by Future Projects
= 299,030 acres / 8.0% of total

Affected by Blythe Solar Power Project
= 5,952 acres / 2.0% of total Future Projects

SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 38
LeConte's Thrasher Habitat



Total American badger / Desert kit fox Habitat in NECO Study Area
= 4,795,631 acres

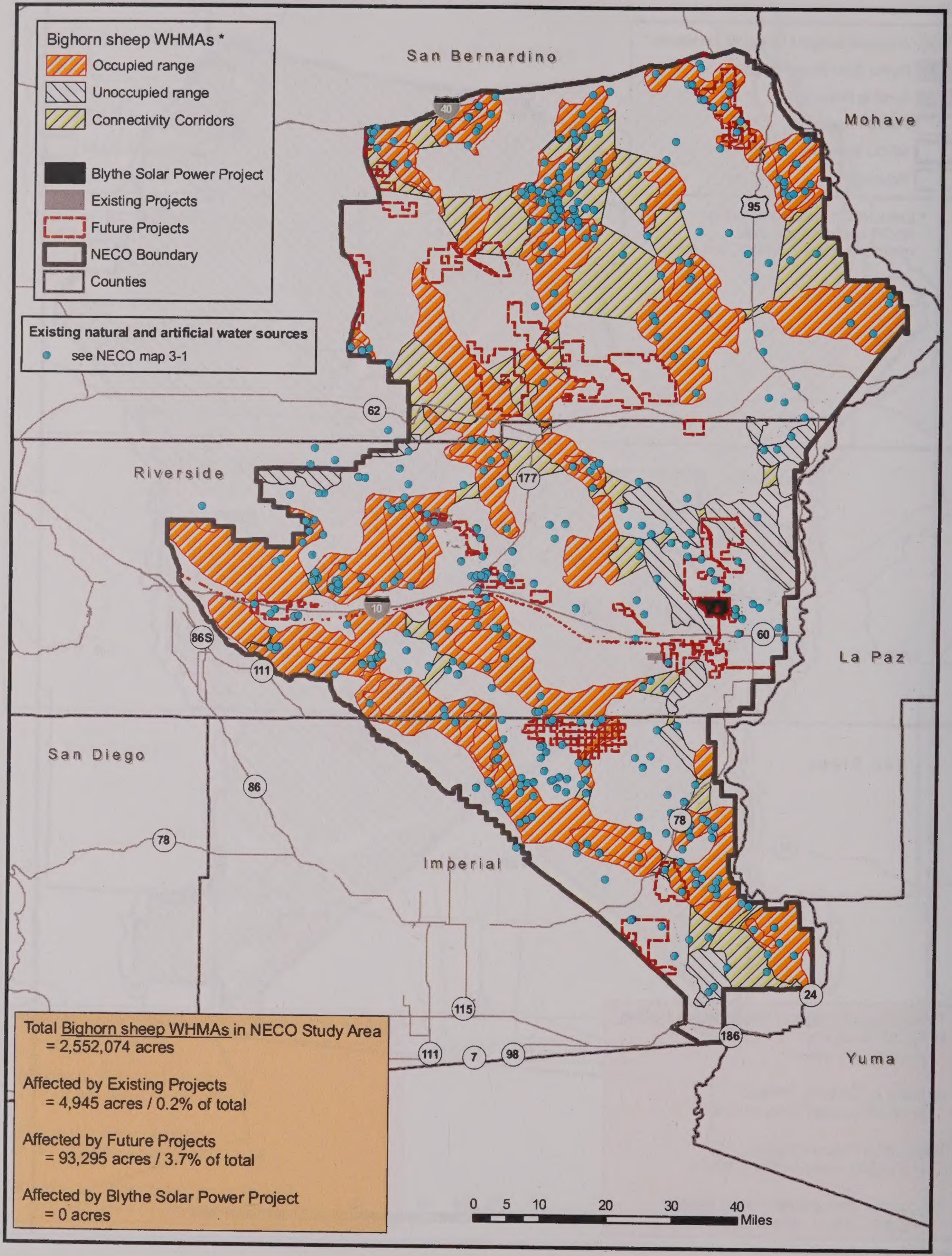
Affected by Existing Projects
= 18,660 acres / 0.4% of total

Affected by Future Projects
= 318,563 acres / 6.6% of total

Affected by Blythe Solar Power Project
= 5,952 acres / 1.9% of total Future

SOURCE: CEC RSA June 2010

Figure 39
American Badger/Desert Kit Fox Habitat



Total Bighorn sheep WHMAs in NECO Study Area
= 2,552,074 acres

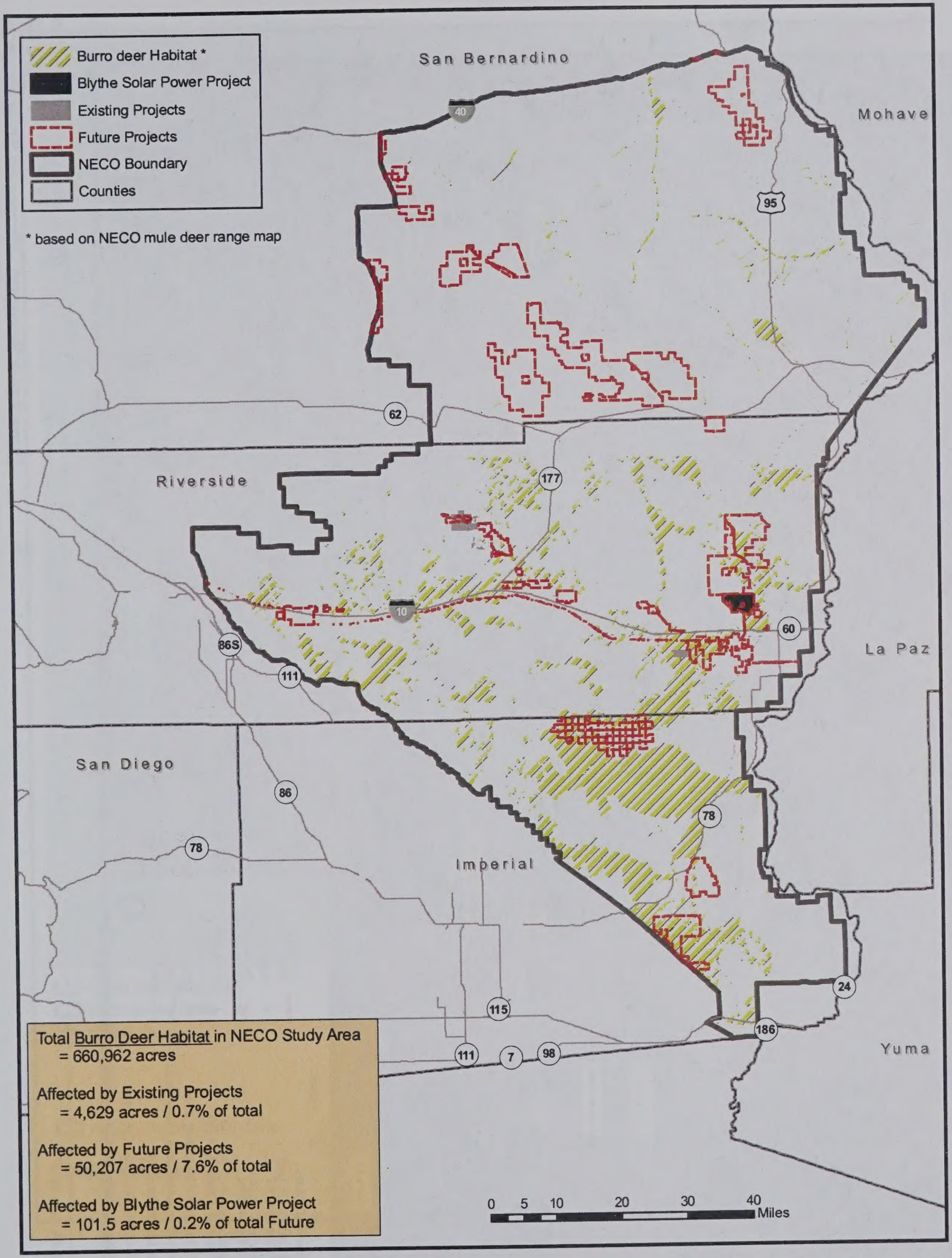
Affected by Existing Projects
= 4,945 acres / 0.2% of total

Affected by Future Projects
= 93,295 acres / 3.7% of total

Affected by Blythe Solar Power Project
= 0 acres

SOURCE: CEC RSA June 2010

Figure 40
Bighorn Sheep WHMAs



Total Burro Deer Habitat in NECO Study Area
= 660,962 acres

Affected by Existing Projects
= 4,629 acres / 0.7% of total

Affected by Future Projects
= 50,207 acres / 7.6% of total

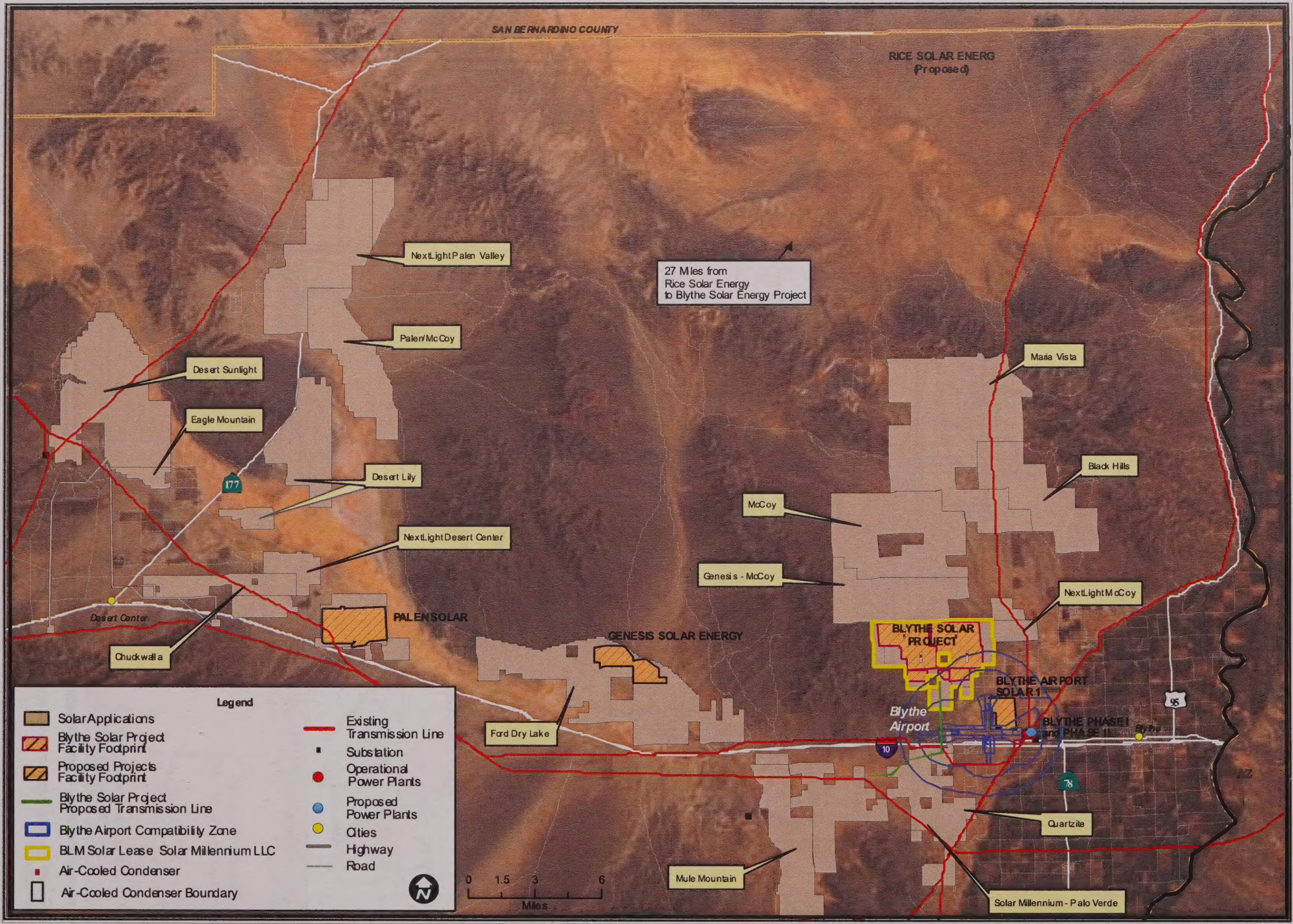
Affected by Blythe Solar Power Project
= 101.5 acres / 0.2% of total Future

SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

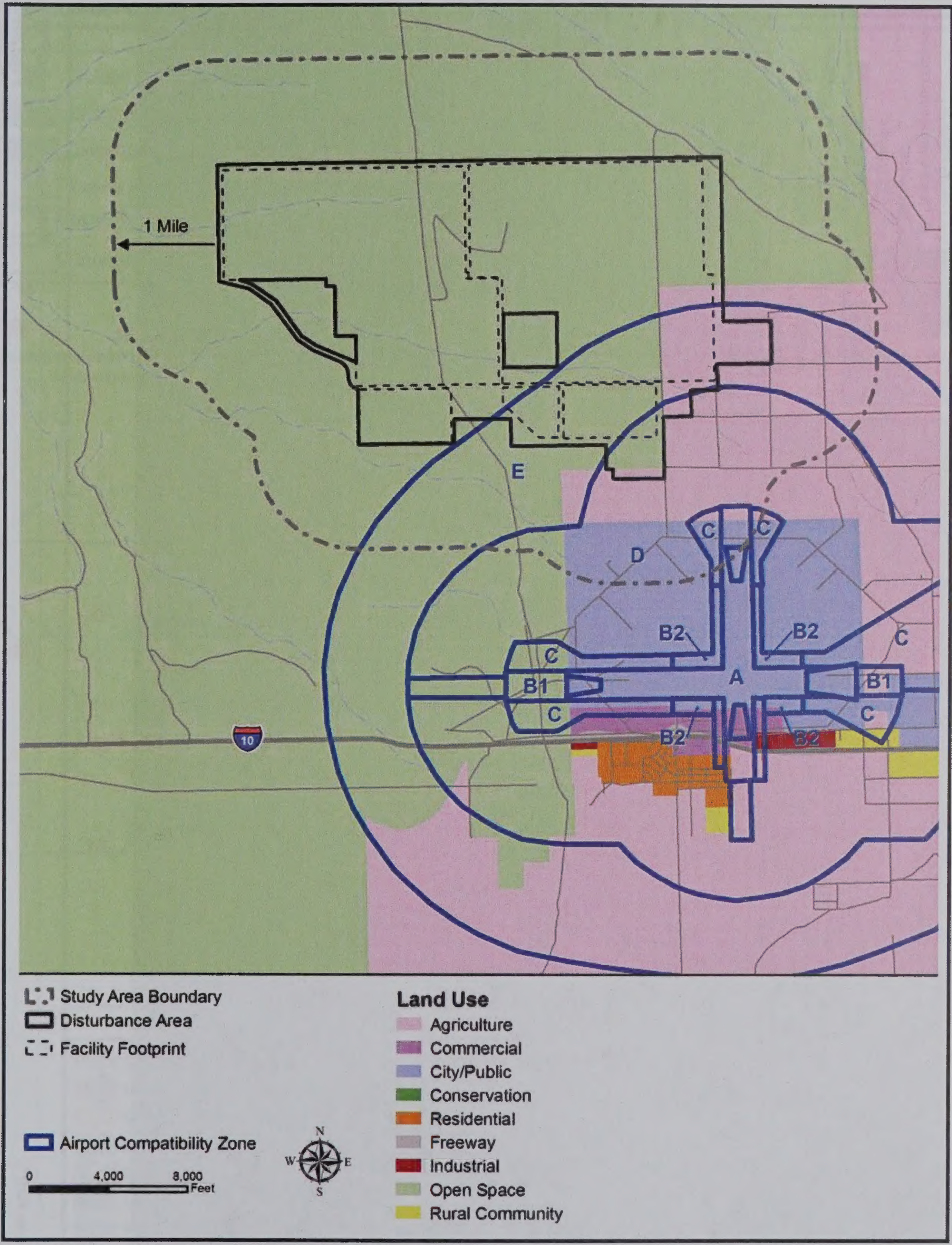
Figure 41

Burro Deer Habitat



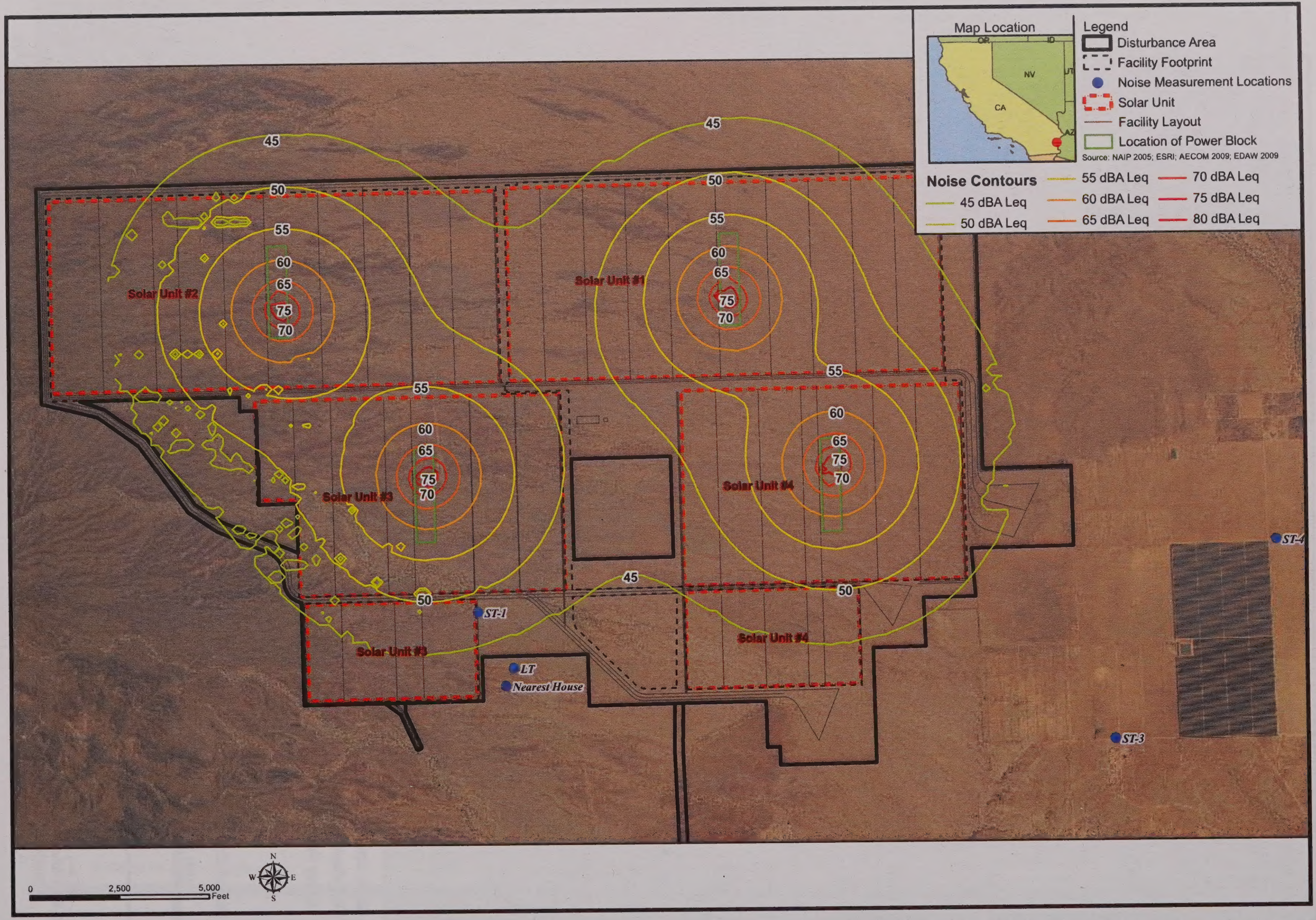
SOURCE: CEC RSA June 2010

Figure 42
Cumulative Scenario - Proposed Solar Projects



SOURCE: CEC RSA June 2010

Figure 43
Land Use



SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

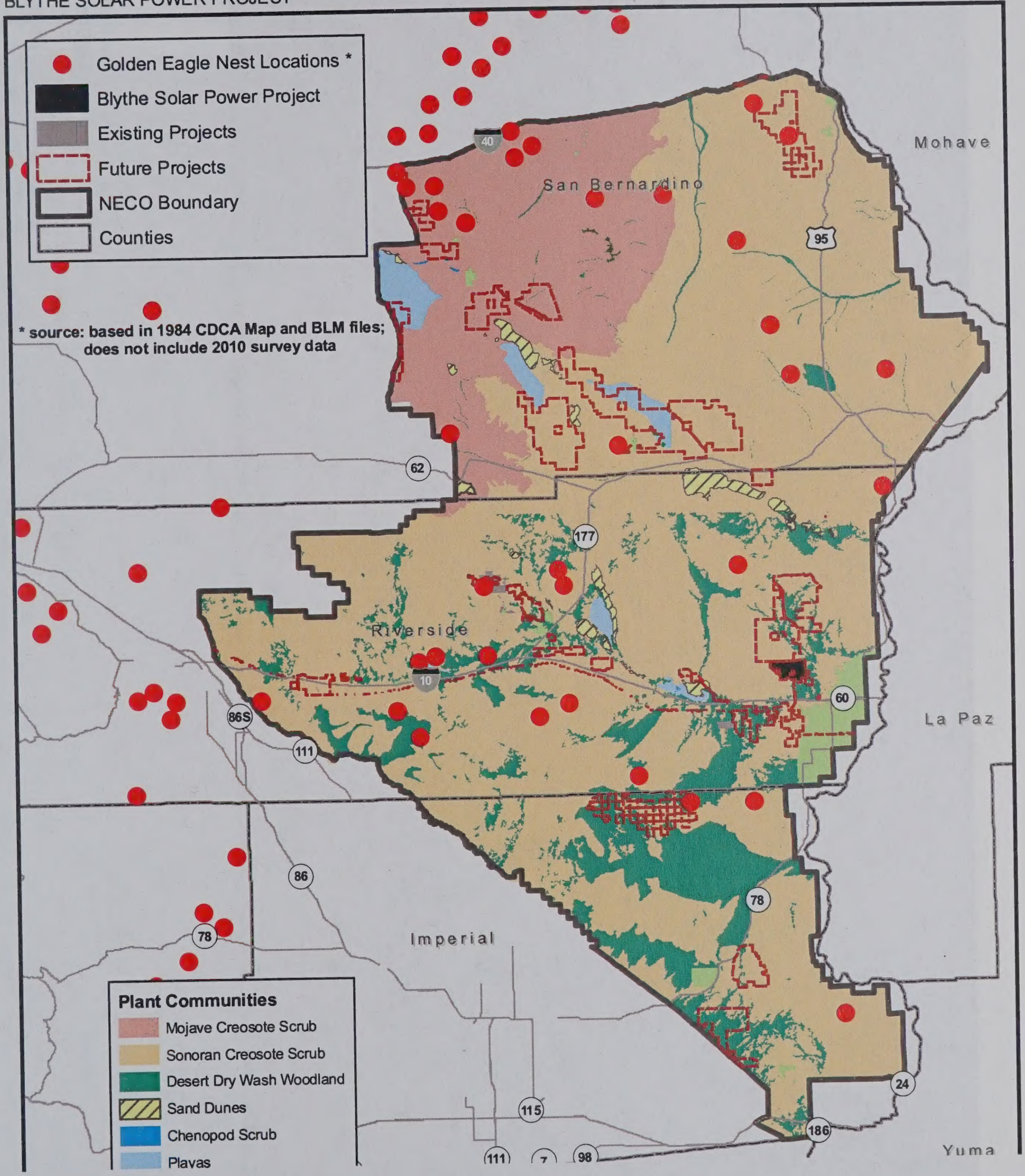
Figure 44

Noise Measurement Locations and Noise Contours

BLYTHE SOLAR POWER PROJECT

BIOLOGICAL RESOURCES FIGURE 10-a

CUMULATIVE EFFECTS

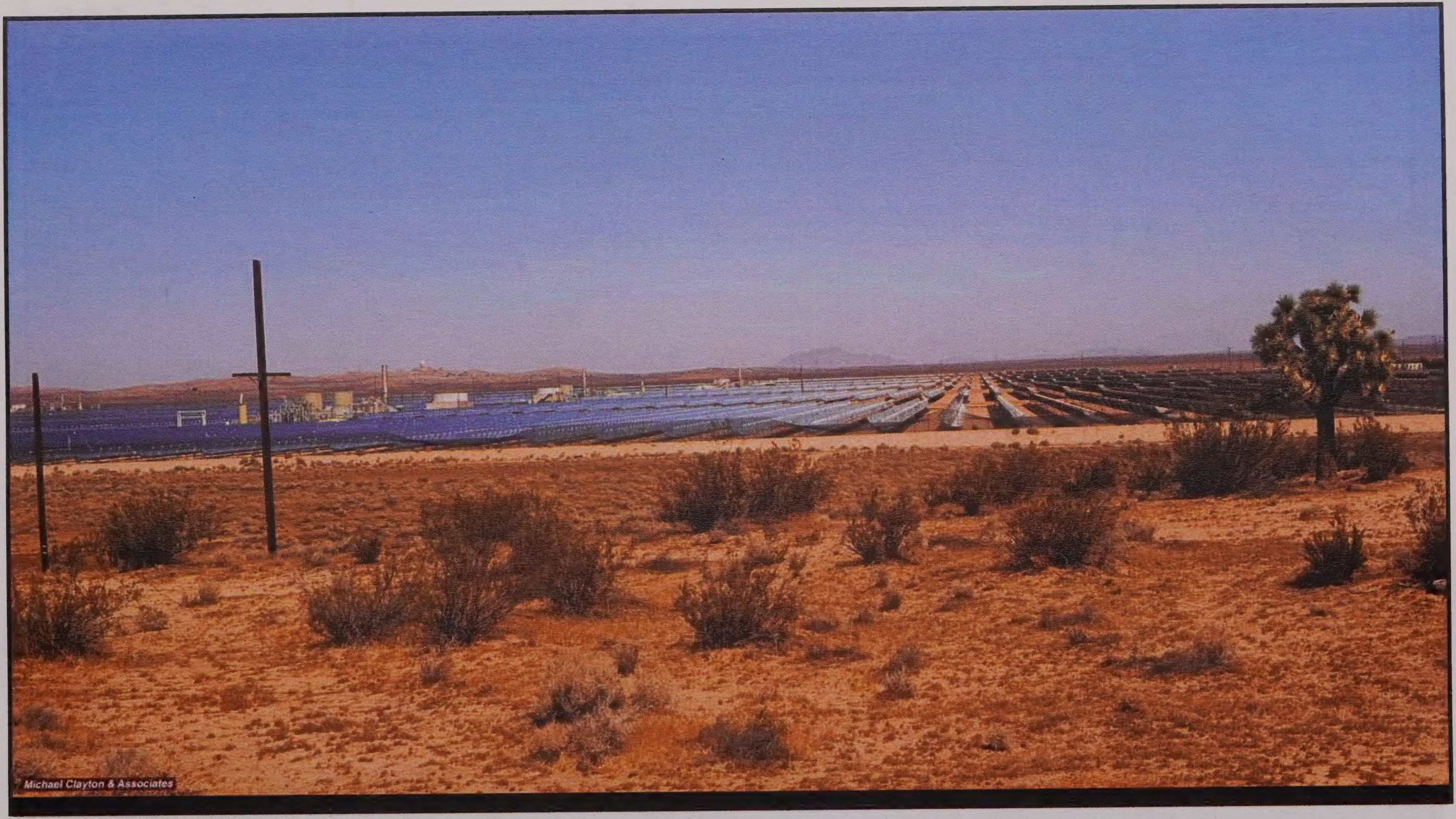


SOURCE: Palo Verde Solar I AFC August 2009

Blythe Solar Power Project PA/FEIS

Figure 45

Location of Key Observation Points (KOPs)

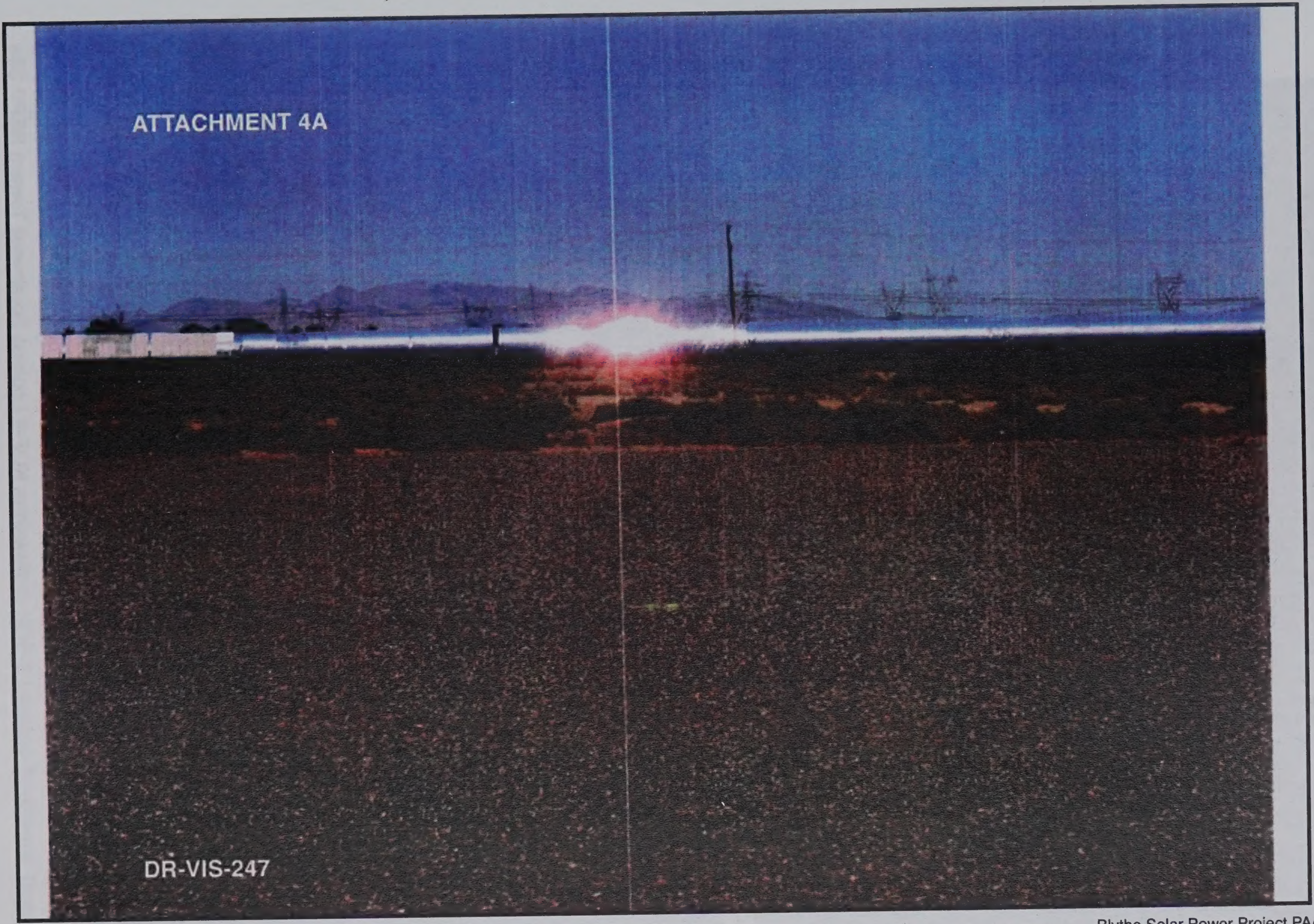


SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 46

Foreground View of an Existing Solar Energy Facility (Kramer Junction SEGS Project)

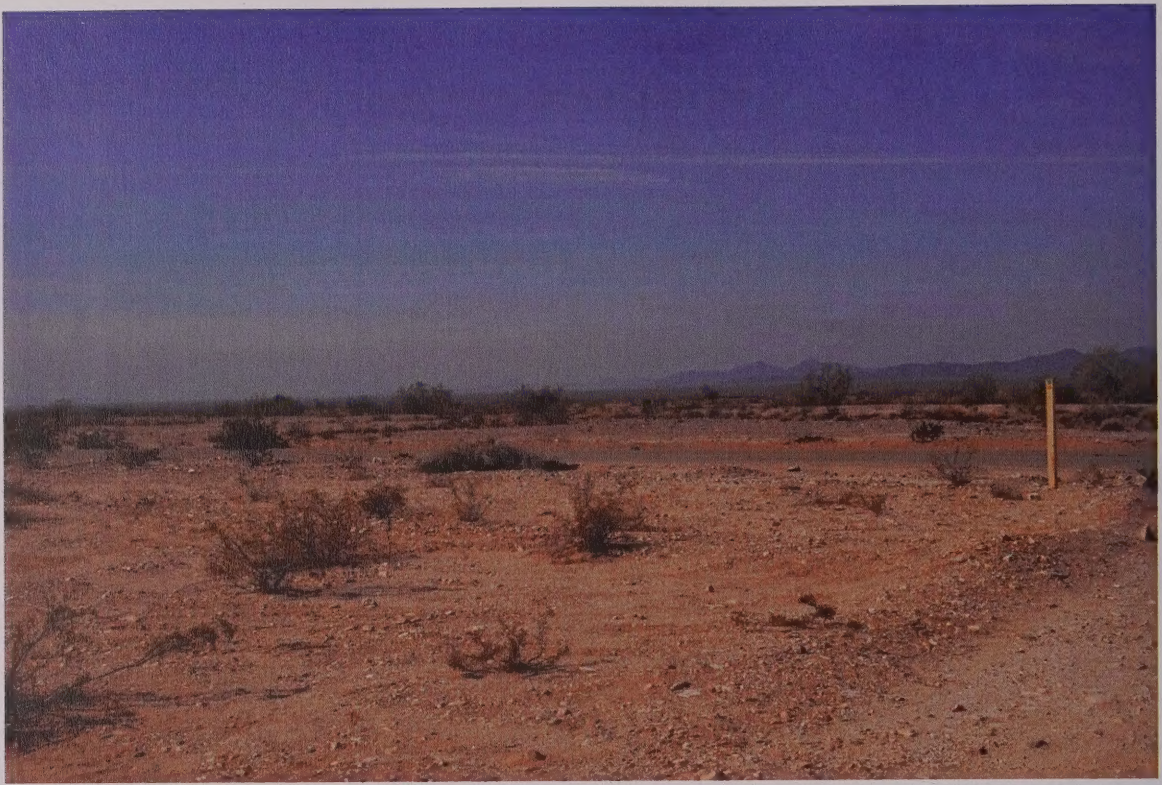


Blythe Solar Power Project PA/FEIS

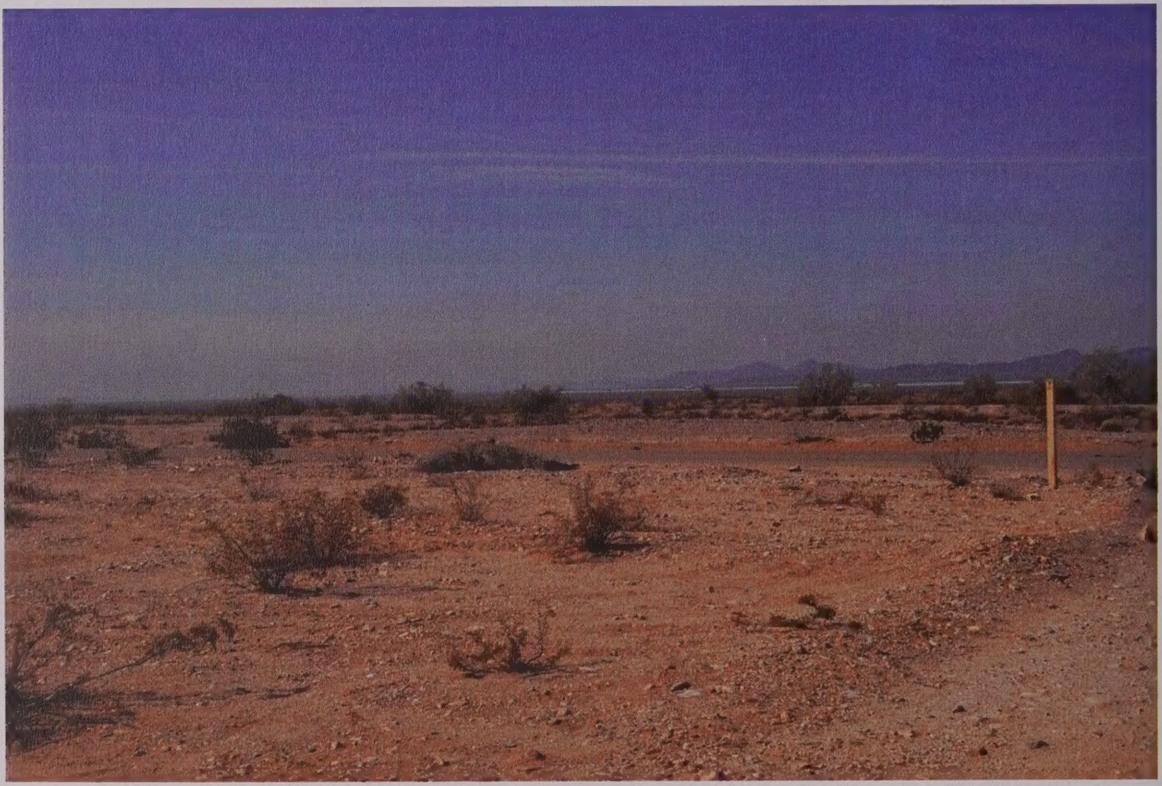
Figure 47

Example of Glare from an Existing Solar Energy Facility

SOURCE: CEC RSA June 2010



Existing Condition



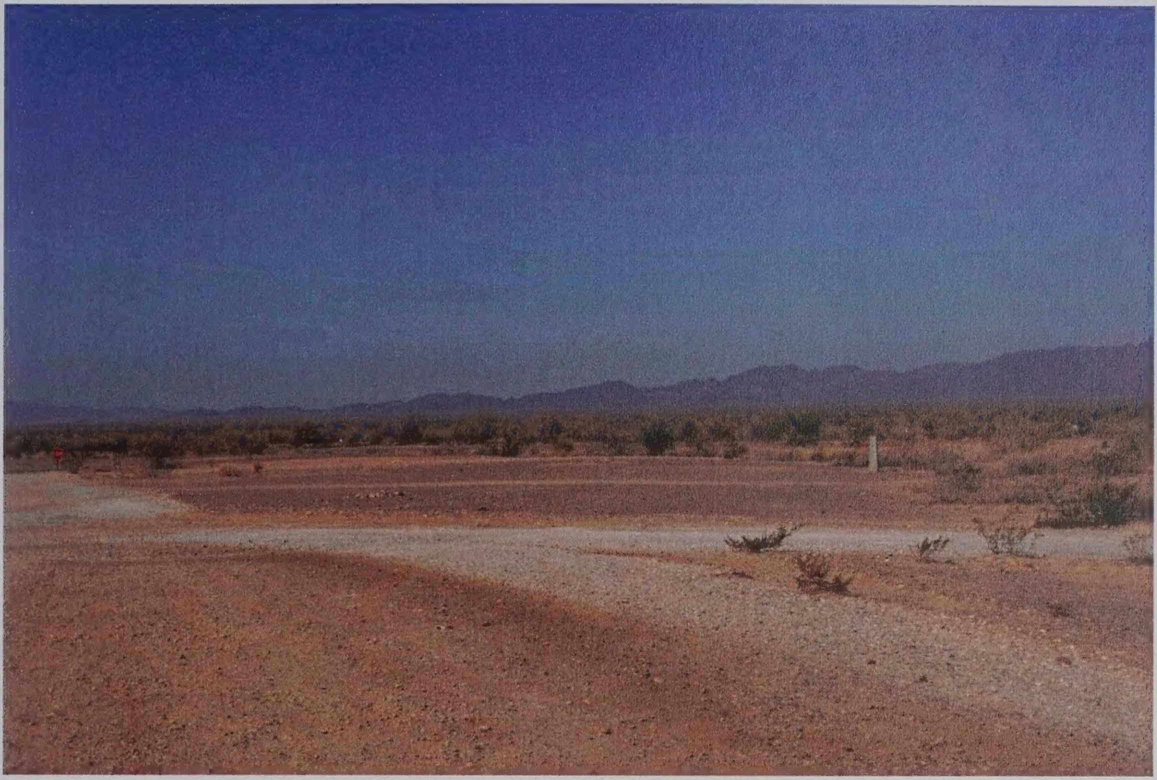
Simulated Condition

SOURCE: Palo Verde Solar I AFC August 2009

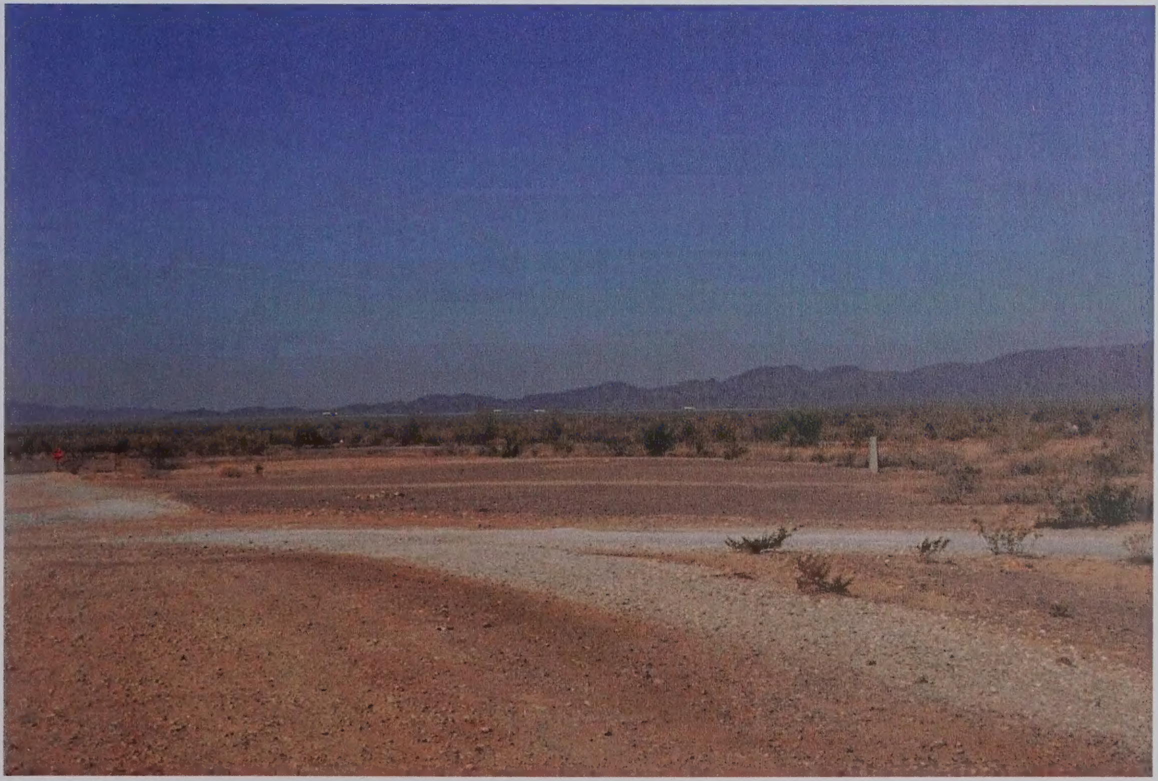
Blythe Solar Power Project PA/FEIS

Figure 48

View from KOP-1 Looking Southwest Toward BSPP Site



Existing Condition



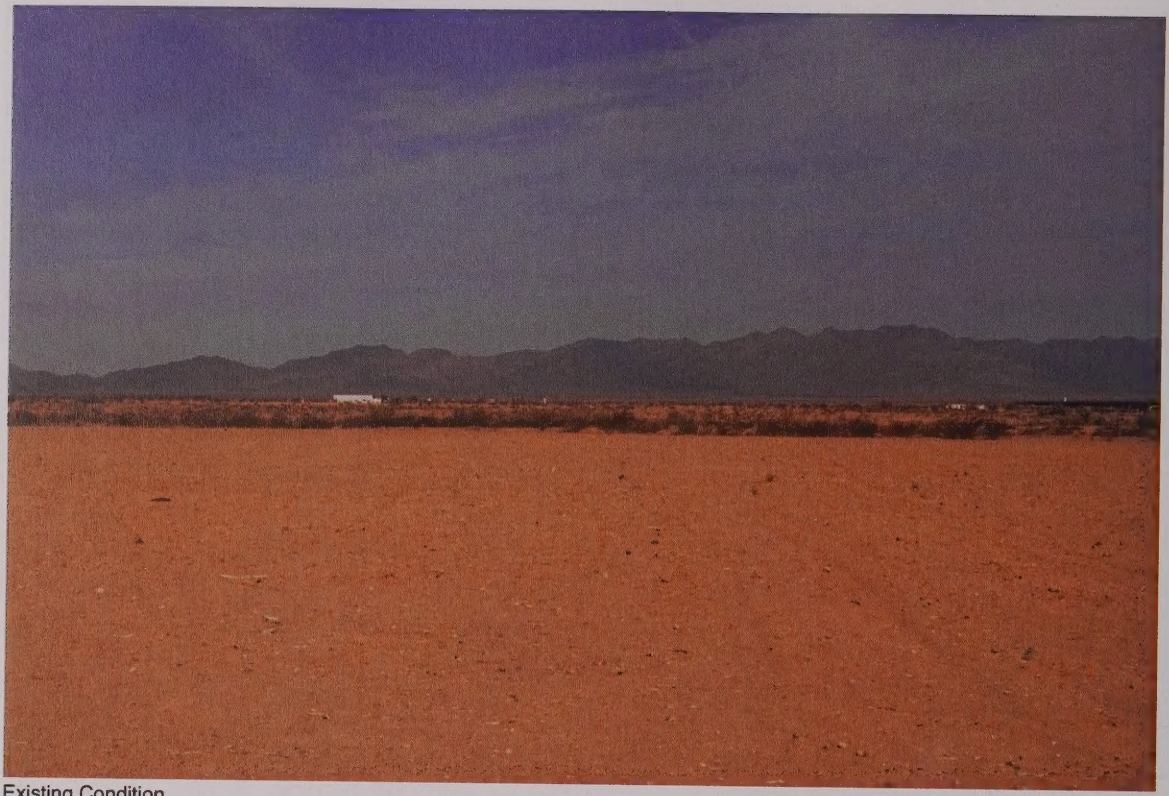
Simulated Condition

SOURCE: Palo Verde Solar I AFC August 2009

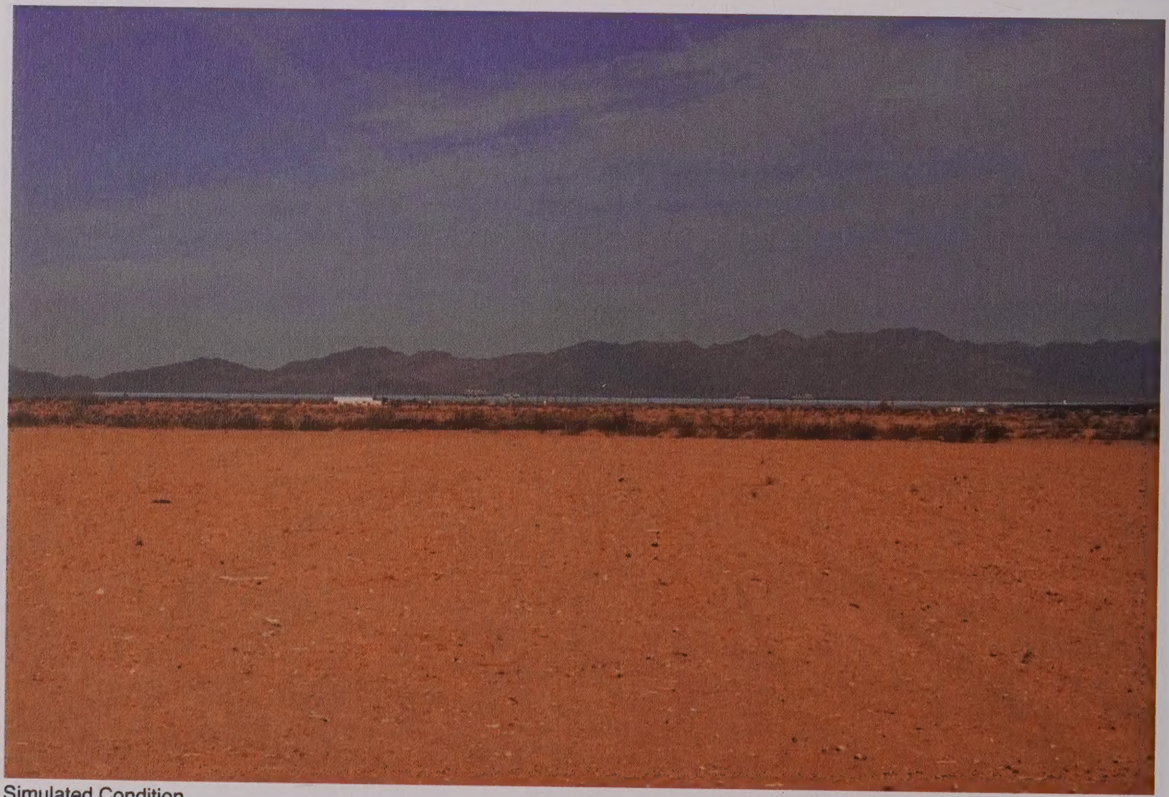
Blythe Solar Power Project PA/FEIS

Figure 49

View from KOP-2 Looking Southwest Toward BSPP Site



Existing Condition



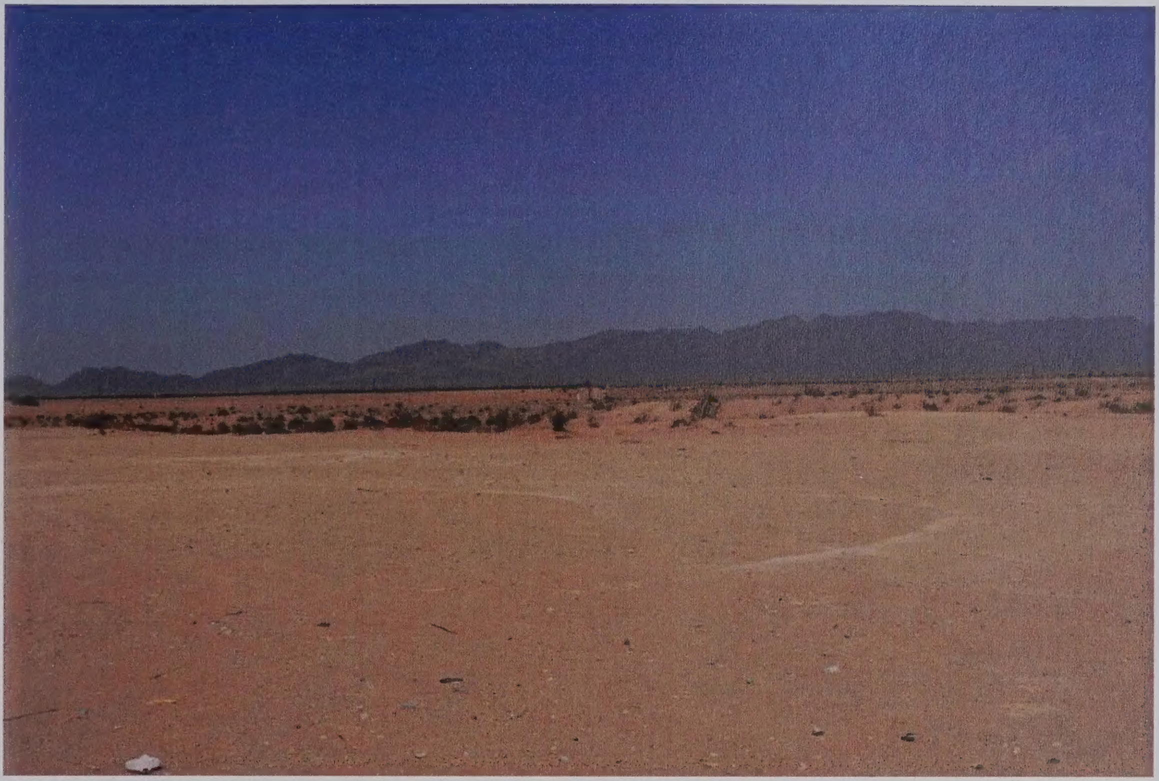
Simulated Condition

SOURCE: Palo Verde Solar I AFC August 2009

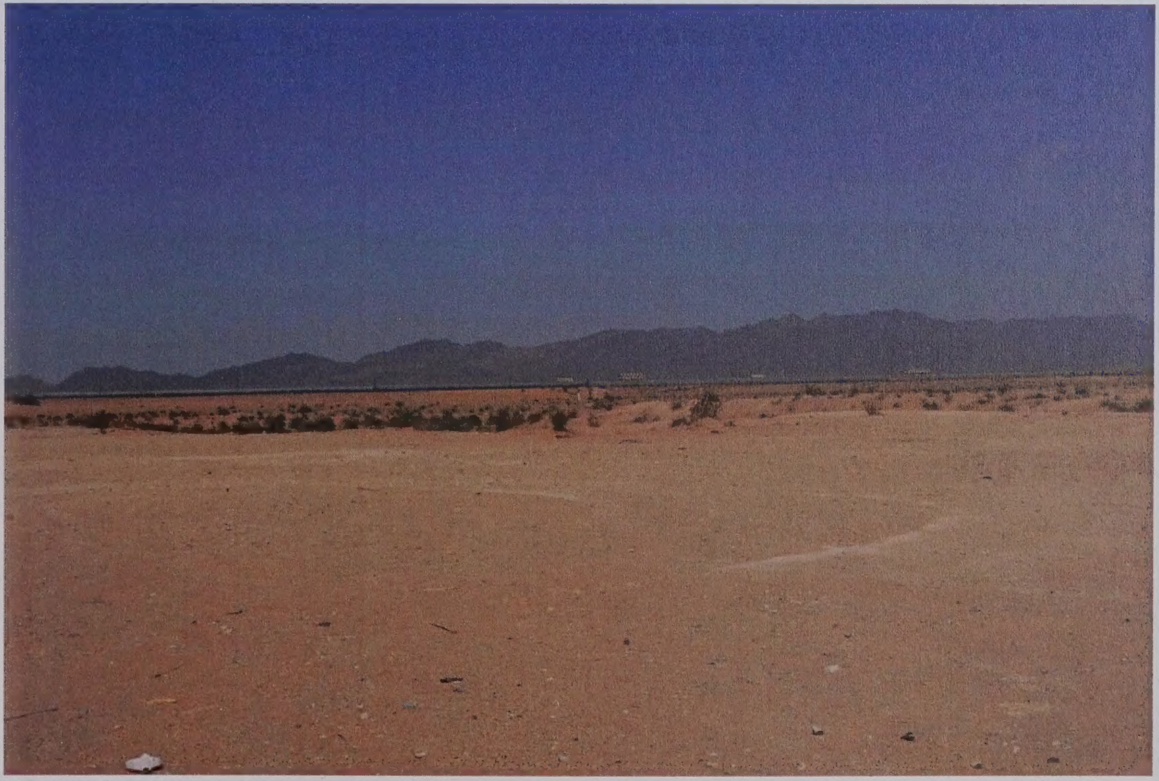
Blythe Solar Power Project PA/FEIS

Figure 50

View from KOP-3 Looking West Toward BSPP Site



Existing Condition



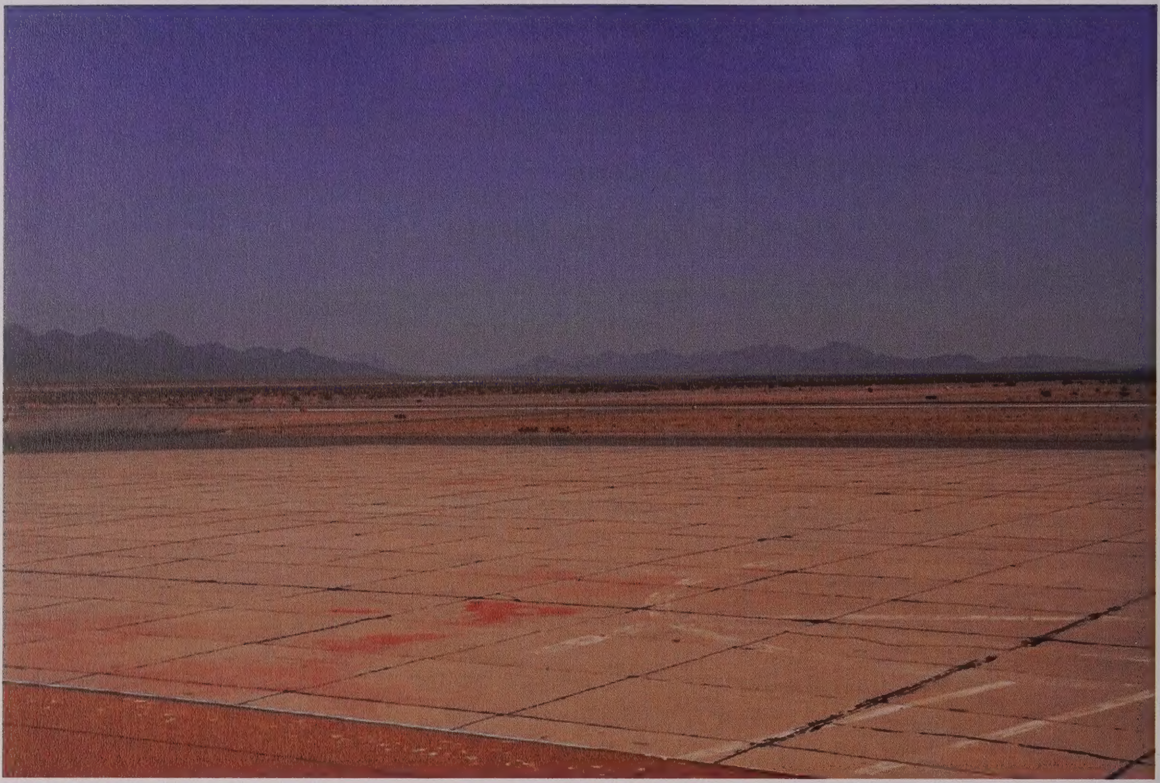
Simulated Condition

SOURCE: Palo Verde Solar I AFC August 2009

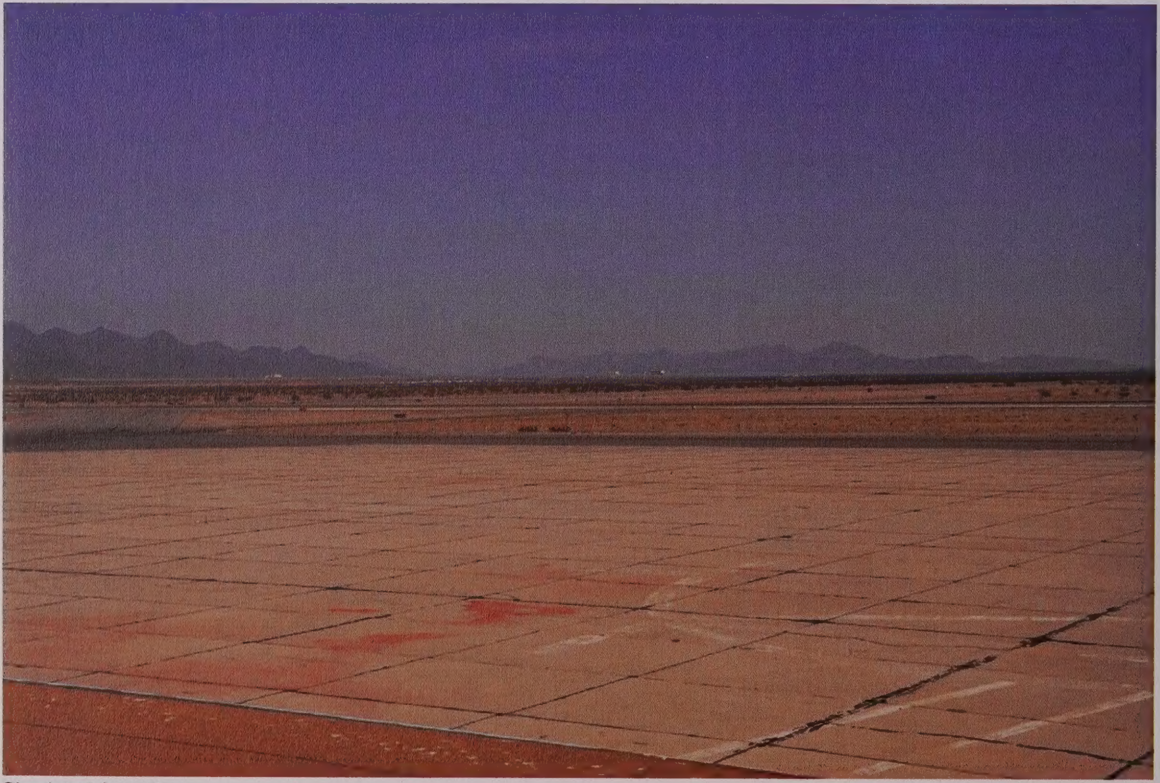
Blythe Solar Power Project PA/FEIS

Figure 51

View from KOP-4 Looking West Toward BSPP Site



Existing Condition

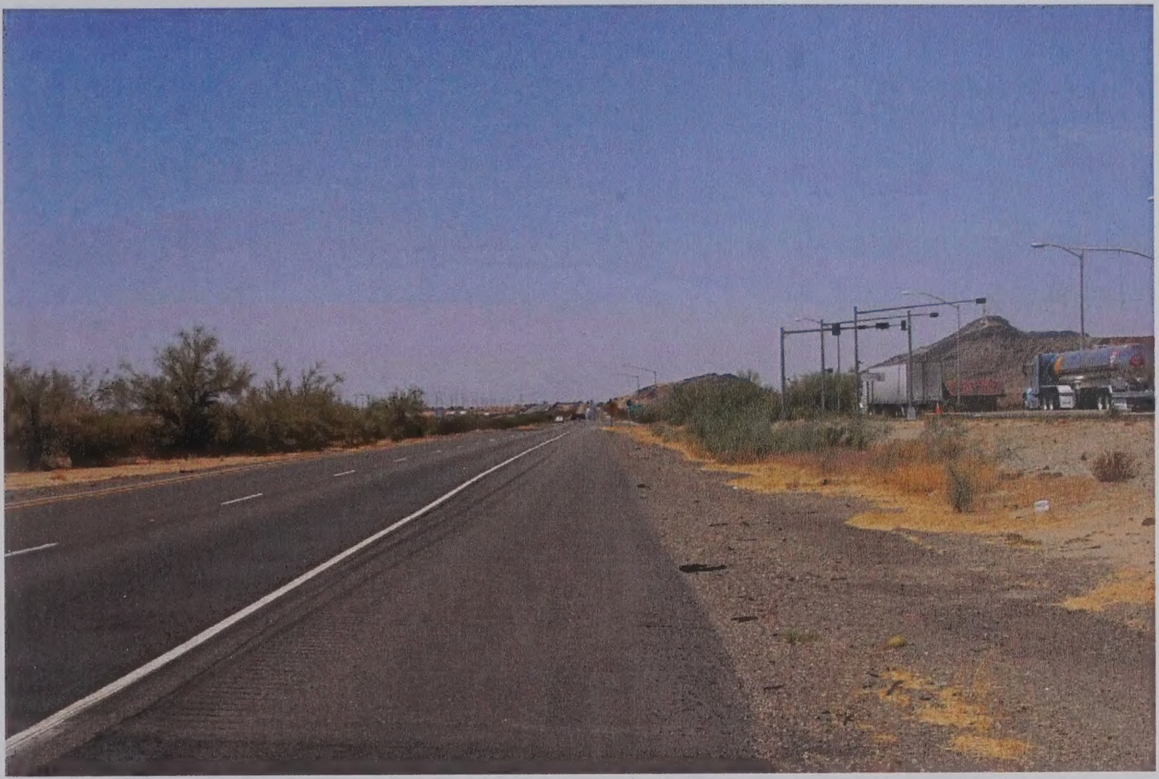


Simulated Condition

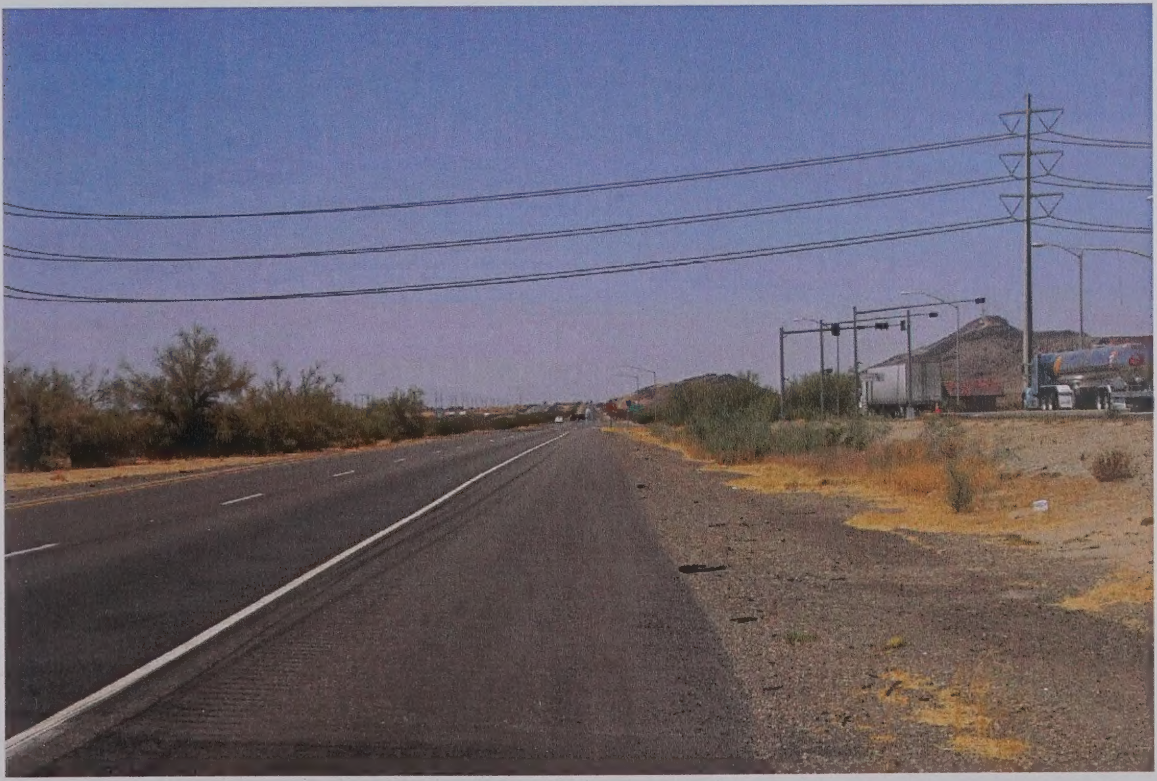
SOURCE: Palo Verde Solar I AFC August 2009

Blythe Solar Power Project PA/FEIS

Figure 52
View from KOP-5 Looking North Toward BSPP Site



Existing Condition



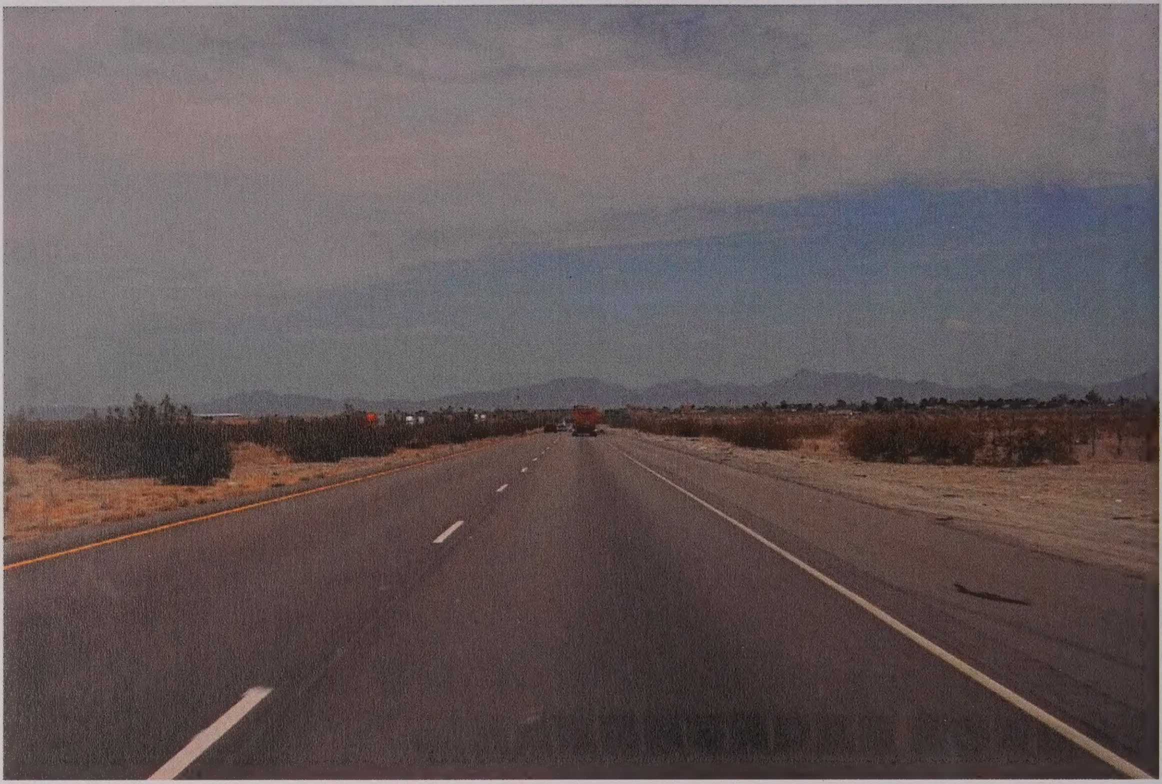
Simulated Condition

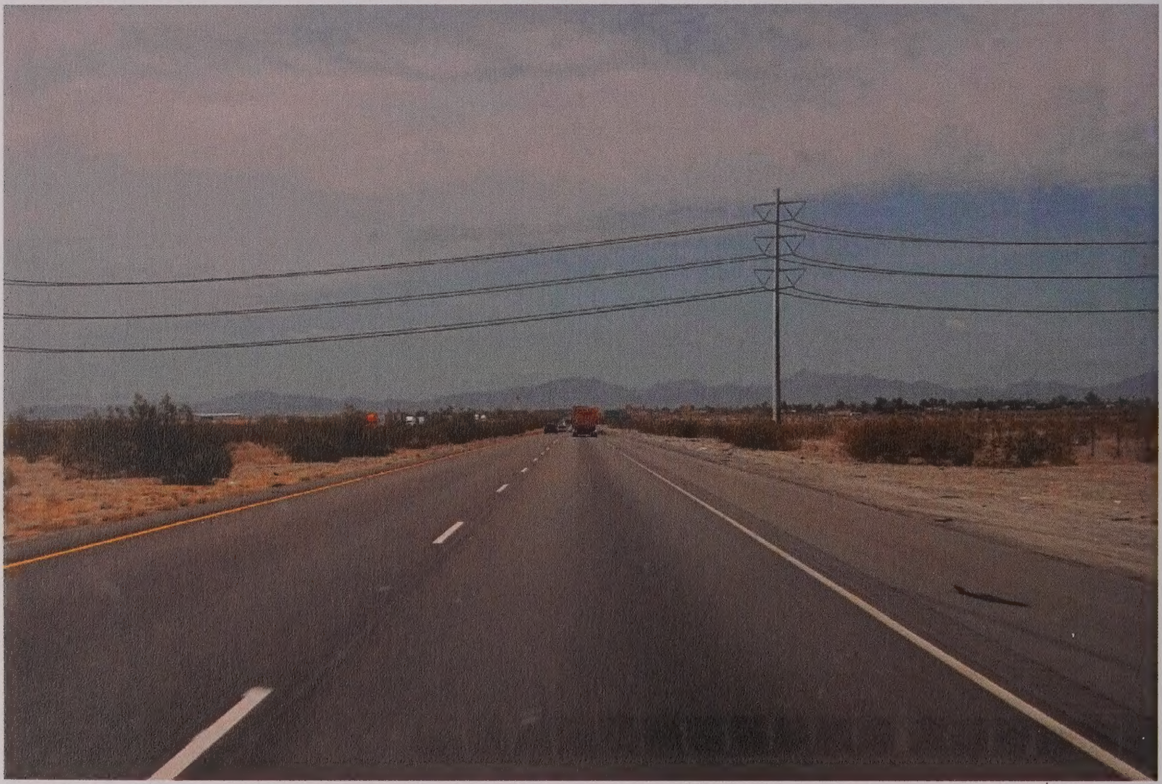
Blythe Solar Power Project PA/FEIS

SOURCE: Palo Verde Solar I AFC August 2009

Figure 53

View from KOP-6 Looking West Toward BSPP Transmission Line


Existing Condition

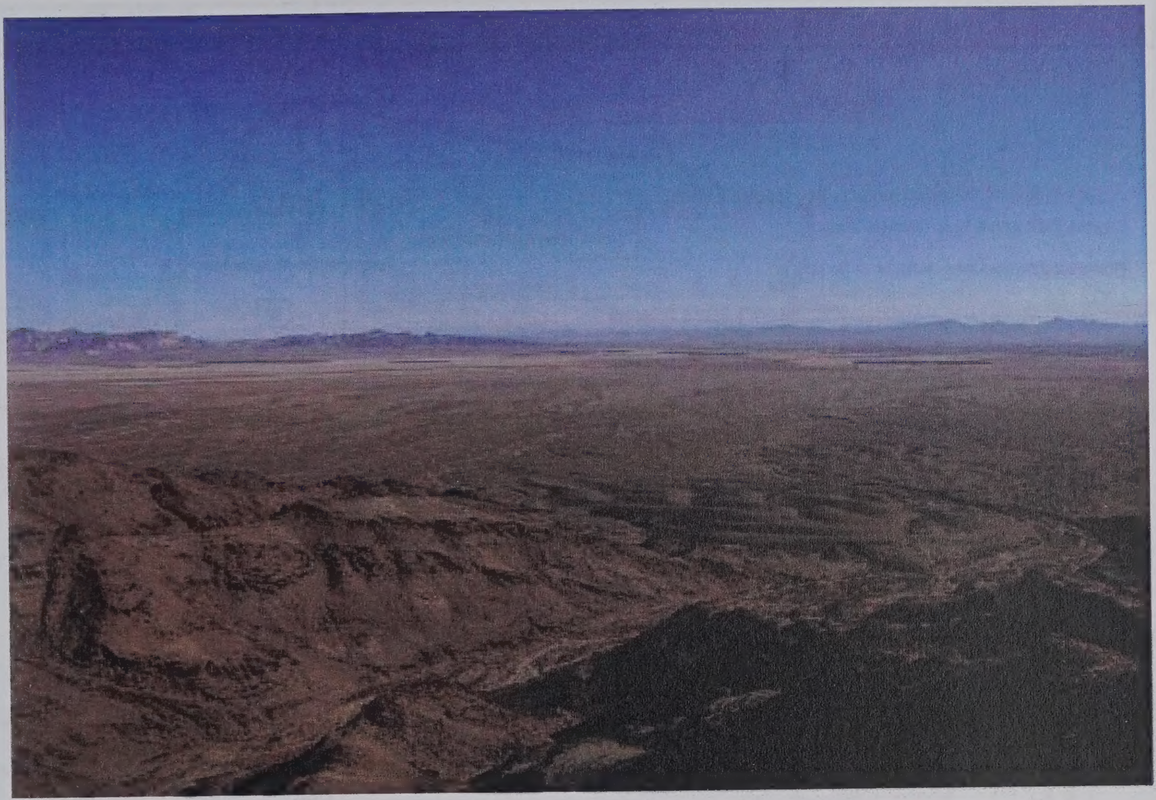

Simulated Condition

SOURCE: Palo Verde Solar I AFC August 2009

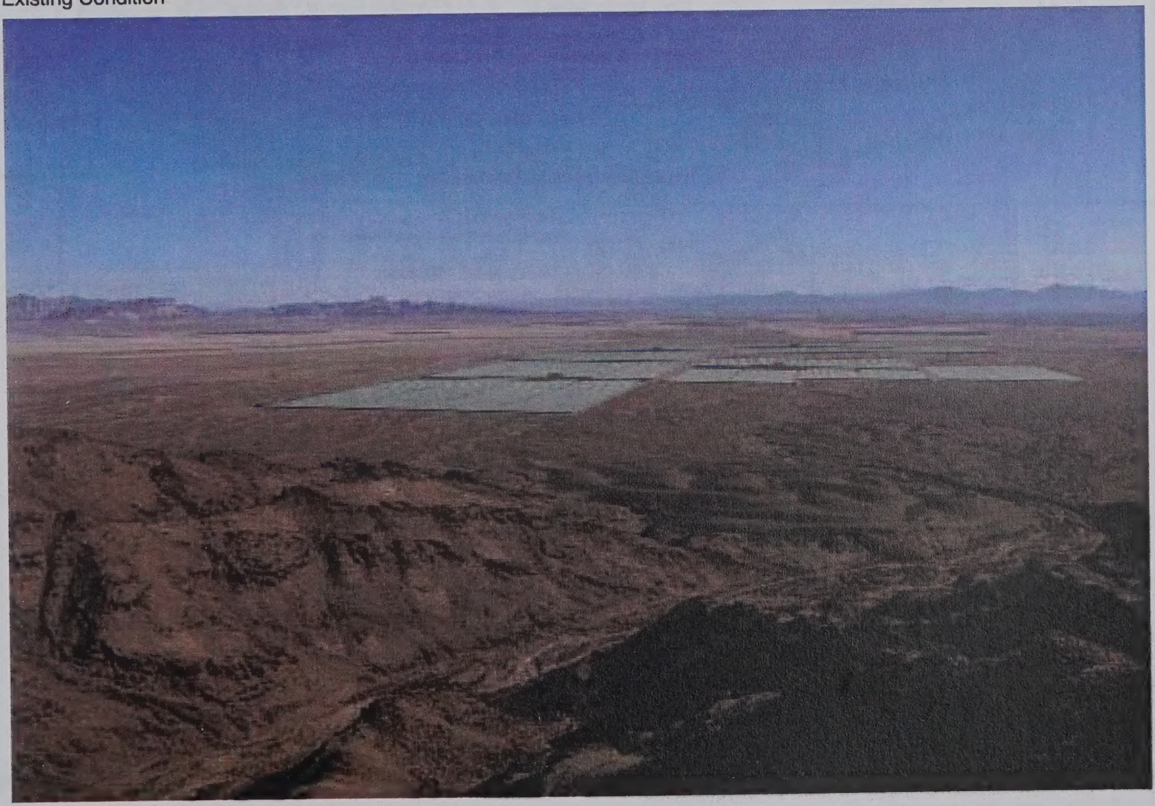
Blythe Solar Power Project PA/FEIS

Figure 54

View from KOP-7 Looking East Toward BSPP Transmission Line



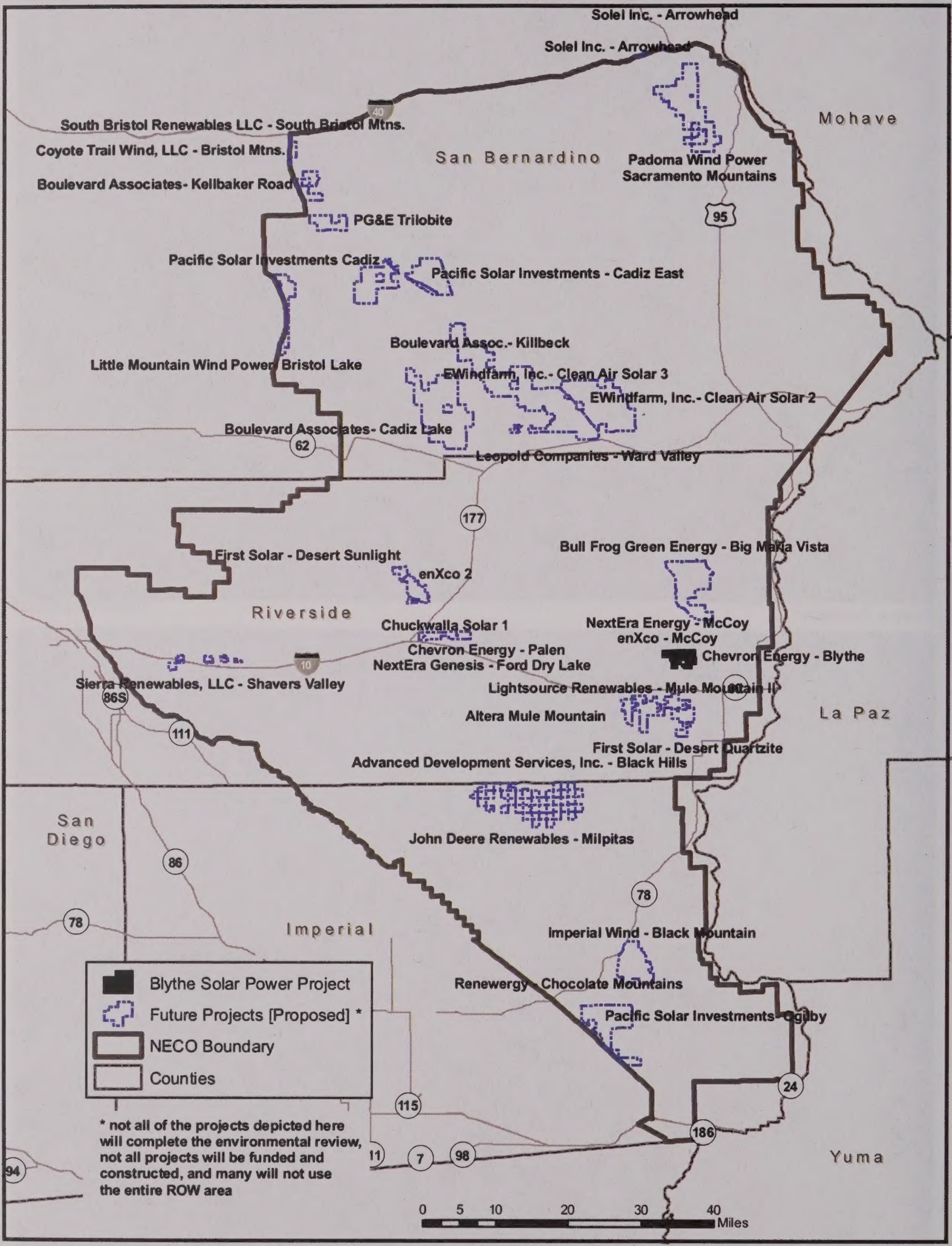
Existing Condition



Simulated Condition

SOURCE: CEC RSA June 2010

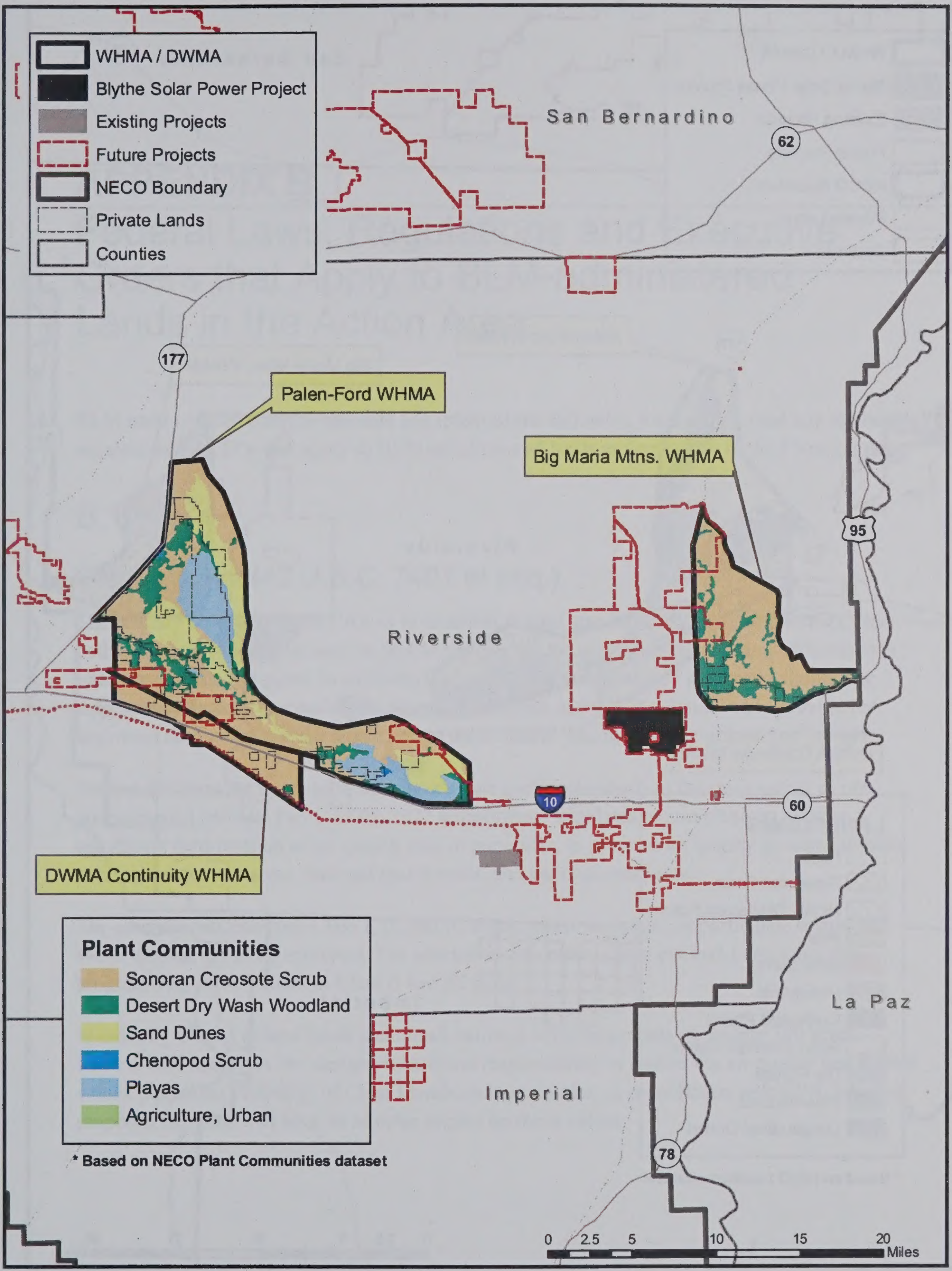
Figure 55
View from KOP-8


Solel Inc. - Arrowhead
Solel Inc. - Arrowhead
40
South Bristol Renewables LLC - South Bristol Mtns.
Coyote Trail Wind, LLC - Bristol Mtns.
Mohave
San Bernardino
Padoma Wind Power
Sacramento Mountains
Boulevard Associates- Kellbaker Road
PG&E Trilobite
95
Pacific Solar Investments Cadiz
Pacific Solar Investments - Cadiz East
Boulevard Assoc.- Killbeck
Little Mountain Wind Power Bristol Lake
EWindfarm, Inc.- Clean Air Solar 3
EWindfarm, Inc.- Clean Air Solar 2
Boulevard Associates- Cadiz Lake
62
Leopold Companies - Ward Valley
177
Bull Frog Green Energy - Big Maria Vista
First Solar - Desert Sunlight
enXco 2
Riverside
Chuckwalla Solar 1
NextEra Energy - McCoy
enXco - McCoy
Chevron Energy - Palen
NextEra Genesis - Ford Dry Lake
Chevron Energy - Blythe
10
Sierra Renewables, LLC - Shavers Valley
86S
Lightsource Renewables - Mule Mountain II
95
Altera Mule Mountain
La Paz
111
First Solar - Desert Quartzite
Advanced Development Services, Inc. - Black Hills
San Diego
John Deere Renewables - Milpitas
86
78
78
Imperial
Imperial Wind - Black Mountain
Renewergy - Chocolate Mountains
Pacific Solar Investments - Ogilby
24
115
186
11
7
98
94
Yuma
0 5 10 20 30 40 Miles
Blythe Solar Power Project
Future Projects [Proposed] *
NECO Boundary
Counties

* not all of the projects depicted here will complete the environmental review, not all projects will be funded and constructed, and many will not use the entire ROW area

SOURCE: CEC RSA June 2010

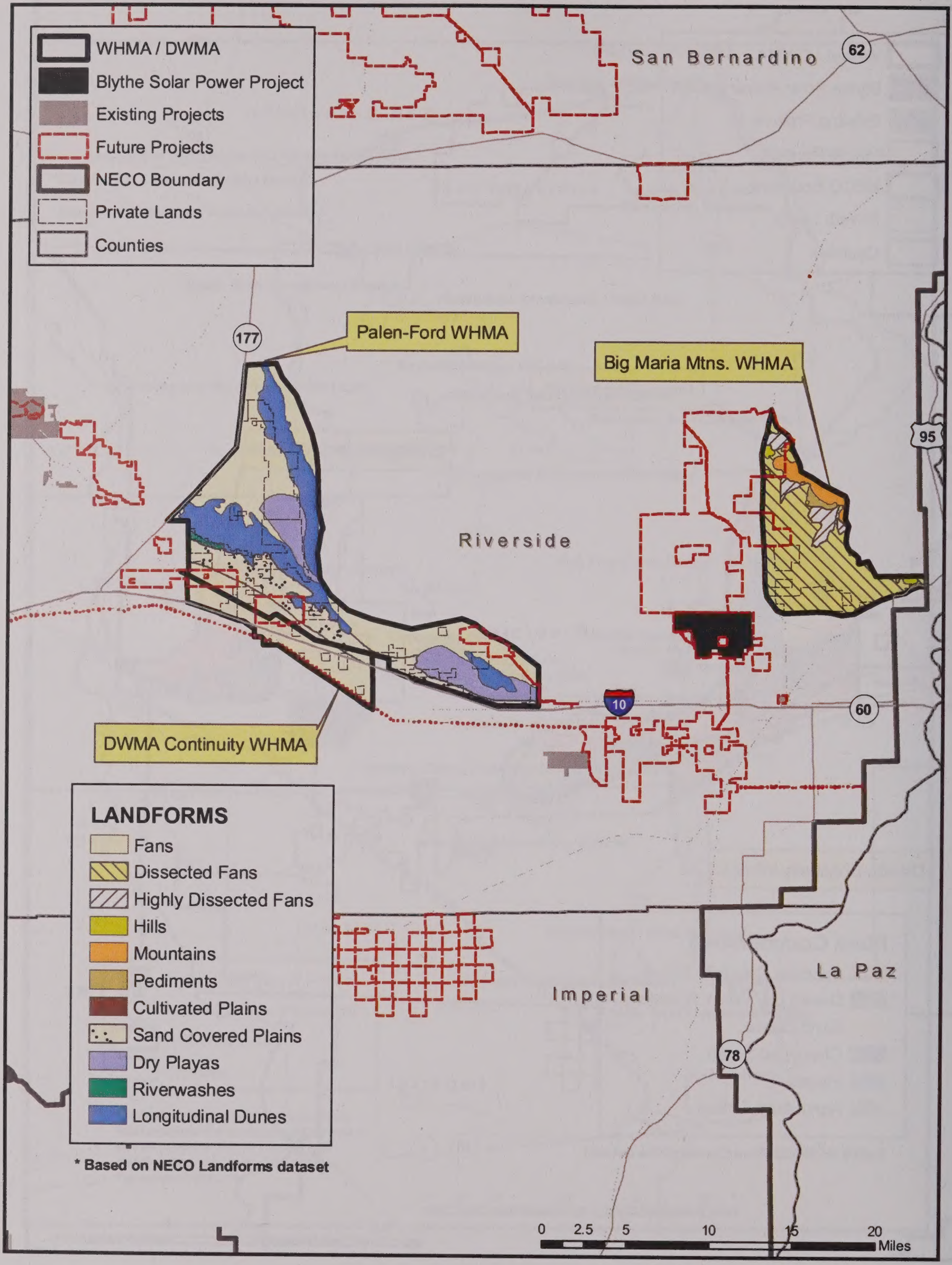
Figure 56
Foreseeable Projects within the NECO Boundary



SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 57
Multi-Species WHMAs –
Plant Communities



* Based on NECO Landforms dataset

SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 58
Multi-Species WHMAs – Landforms

APPENDIX B

Federal Laws, Regulations and Executive Orders that Apply to BLM-administered Lands in the Action Area

BLM must comply with the mandate and intent of the following federal laws (and any applicable regulations) and EOs that apply to BLM-administered lands and resources in the Planning Area.

B.1 Air

Clean Air Act (42 U.S.C. 7401 et seq.)

The primary objective of the CAA is to establish federal standards for various pollutants from both stationary and mobile sources and to provide for the regulation of polluting emissions via state implementation plans. In addition, the amendments are designed to prevent significant deterioration in certain areas where air quality exceeds national standards and to provide for improved air quality in areas which do not meet federal standards ("non-attainment" areas).

Federal facilities are required to comply with air quality standards to the same extent as non-governmental entities. Part C of the 1977 amendments stipulates requirements to prevent significant deterioration of air quality and, in particular, to preserve air quality in national parks, national wilderness areas, national monuments, and national seashores.

The amendments establish Class I, II, and III areas, where emissions of particulate matter and sulfur dioxide are to be restricted. The restrictions are most severe in Class I areas and are progressively more lenient in Class II and III areas.

Mandatory Class I federal lands include all national wilderness areas exceeding 500 acres. Federal land managers are charged with direct responsibility to protect the air quality and related values (including visibility) of Class I lands and to consider, in consultation with EPA, whether proposed facilities will have an adverse impact on these values.

B.2 American Indians

A. American Indian Religious Freedom Act (42 U.S.C. 1996)

This act recognizes that freedom of religion for all people is an inherent right and that traditional American Indian religions are an indispensable and irreplaceable part of Indian life. Establishing federal policy to protect and preserve the inherent right of religions freedom for Native Americans, this act requires federal agencies evaluate their actions and policies to determine, if changes should be made to protect and preserve the religious cultural rights and practices of Native Americans. Such evaluations are made in consultation with native traditional religious leaders.

B. Native American Graves Protection & Repatriation Act (25 U.S.C. 3001-13)

This act establishes requirements for the treatment of Native American human remains and sacred or cultural objects found on federal land.

In any case where such items can be associated with specific tribes or groups of tribes, the agency is required to provide notice of the item in question to the tribe or tribes. Upon request, each agency is required to return any such item to any lineal descendant or specific tribe with whom such item is associated. There are various additional requirements imposed upon the Secretary.

C. Indian Sacred Sites (EO 13007, May 24, 1996)

In managing federal lands, agencies shall, to the extent practicable, permitted by law, and not inconsistent with agency functions, accommodate Indian religious practitioners' access to and ceremonial use of Indian sacred sites. Agencies are to avoid adversely affecting the physical integrity of these sites, maintaining the confidentiality of such sites, and informing tribes of any proposed actions that could restrict access to, ceremonial use of, or adversely affect the physical integrity of, sacred sites.

D. Consultation & Coordination with Indian Tribal Governments (EO 13175, November 6, 2000)

In formulating or implementing policies that have tribal implications, agencies shall respect Indian tribal self-government and sovereignty, honor tribal treaty and other rights, and strive to meet the responsibilities that arise from the unique legal relationship between the Federal Government and Indian tribal governments.

E. Religious Freedom Restoration Act (42 U.S.C. §2000bb)

This act is aimed at preventing laws which substantially burden a person's free exercise of their religion. The Religious Freedom Restoration Act reinstated the **Sherbert Test**, mandating that **strict scrutiny** be used when determining if the **Free Exercise Clause** of the **First Amendment**

to the United States Constitution, guaranteeing religious freedom, has been violated. In this, the courts must first determine whether a person has a claim involving a sincere religious belief, and whether government action has a substantial burden on the person's ability to act on that belief. If these two elements are established, then the government must prove that it is acting in furtherance of a compelling state interest, and that it has pursued that interest in the manner least restrictive, or least burdensome, to religion.

B.3 Antiquities/Archaeological

A. Antiquities Act (16 U.S.C. §§431-433)

This act authorizes the President to designate as National Monuments objects or areas of historic or scientific interest on lands owned or controlled by the United States. The act required that a permit be obtained for examination of ruins, excavation of archaeological sites, and the gathering of objects of antiquity on lands under the jurisdiction of the Secretaries of the Interior, Agriculture, and Army, and provided penalties for violations.

B. Historic Sites, Buildings and Antiquities Act (16 U.S.C. 461-462, 464-467)

This act declared it a national policy to preserve historic sites and objects of national significance. It provided procedures for designation, acquisition, administration, and protection of such sites. Among other things, National Historic and Natural Landmarks are designated under authority of this act.

C. Archaeological Resources Protection Act (16 U.S.C. 470aa - 470ll)

This act largely supplanted the resource protection provisions of the Antiquities Act for archaeological items. It established detailed requirements for issuance of permits for any excavation for or removal of archaeological resources from federal or Indian lands. It also established civil and criminal penalties for the unauthorized excavation, removal, or damage of any such resources; for any trafficking in such resources removed from federal or Indian land in violation of any provision of federal law; and for interstate and foreign commerce in such resources acquired, transported or received in violation of any state or local law.

D. Archeological and Historic Preservation Act (16 U.S.C. 469-469c)

This law was enacted to carry out the policy established by the Historic Sites Act, directed federal agencies to notify the Secretary of the Interior whenever they find a federal or federally assisted, licensed or permitted project may cause loss or destruction of significant scientific, prehistoric, or archaeological data. The act authorized use of appropriated, donated, and/or transferred funds for the recovery, protection, and preservation of such data.

E. National Historic Preservation Act (16 U.S.C. 470 et seq.)

This act provided for preservation of significant historical features (buildings, objects, and sites) through a grant-in-aid program to the states. It established a NRHP and a program of matching grants under the existing National Trust for Historic Preservation. The act established an Advisory Council on Historic Preservation, which was made a permanent independent agency in1976. Federal agencies are directed to take into account the effects of their actions on items or sites listed or eligible for listing in the NRHP.

F. Protection & Enhancement of Cultural Environment (EO 11593, May 13, 1971)

Federal agencies are to provide leadership in the preservation, restoration, and maintenance of the historic and cultural environment. Agencies are to locate and evaluate all federal sites under their jurisdiction or control which may qualify for listing on the NRHP. For sites that qualify, agencies are to initiate procedures to maintain such federally owned sites. The Advisory Council on Historic Preservation must be allowed to comment on the alteration, demolition, sale, or transfer of property which is likely to meet the criteria for listing as determined in consultation with the SHPO.

G. Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations (EO 12898, February 11, 1994)

Agencies shall make achieving environmental justice part of their mission by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations.

H. Preserve America (EO 13287, March 3, 2003)

Agencies shall provide leadership in preserving America’s heritage by actively advancing the protection, enhancement, and contemporary use of the historic properties owned by the federal government.

Each agency is to provide and maintain an assessment of the status of its inventory of historic properties and their ability to contribute to community economic development initiatives.

Where consistent with its mission and governing authorities, and where appropriate, agencies shall

1. seek partnerships with state and local governments, Indian tribes, and the private sector to promote the unique cultural heritage of communities and of the nation and to realize the economic benefit that these properties can provide; and
2. cooperate with communities to increase opportunities for public benefit from, and access to, federally owned historic properties.

B.4 Environment—Generally

A. National Environmental Policy Act (42 U.S.C. 4321 et seq.)

NEPA encourages productive and enjoyable harmony between man and his environment; promotes efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; and enriches the understanding of the ecological systems and natural resources important to the nation

NEPA requires that for recommendations or reports on proposals for legislation and other major actions significantly affecting the quality of the human environment that federal agencies through a systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making which may have an impact on man's environment include a detailed statement by the responsible official on -

1. the environmental impact of the proposed action;
2. any adverse environmental effects which cannot be avoided should the proposal be implemented;
3. alternatives to the Proposed Action;
4. the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity; and
5. any irreversible and irretrievable commitments of resources which would be involved in the Proposed Action should it be implemented.

B. Protection & Enhancement of Environmental Quality (EO 11514, Mar 5, 1970)

Federal agencies shall initiate measures needed to direct their policies, plans and programs so as to meet national environmental goals of protecting and enhancing the quality of the nation's environment to sustain and enrich human life.

Agencies should monitor, evaluate, and control on a continuing basis their agencies' activities so as to protect and enhance the quality of the environment. Such activities shall include those directed to controlling pollution and enhancing the environment and those designed to accomplish other program objectives which may affect the quality of the environment.

Agencies shall ensure the fullest practicable provision of timely public information and understanding of federal plans and programs with environmental impact in order to obtain the views of interested parties. This will include, whenever appropriate, provision for public hearings and shall provide the public with relevant information, including information on alternative courses of action.

C. Environmental Quality Improvement Act (42 U.S.C. 4371 et seq.)

Ensures that each federal agency conducting or supporting public works activities affecting the environment implements policies established under existing law principally by establishing the Office of Environmental Quality to provide assistance to, and oversight of, federal agencies.

D. Federal Land Policy and Management Act (43 U.S.C. 1701 et seq.)

The "Organic Act" for the BLM, this act provides for the inventory and planning of the public lands to ensure that these lands are managed in accordance with the intent of Congress under the principles of multiple use and sustained yield. The lands are to be managed in a manner that protects the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values that, where appropriate, will preserve and protect certain public lands in their natural conditions, provide food and habitat for fish and wildlife and domestic animals, and provide for outdoor recreation and human occupancy and use by encouraging collaboration and public participation throughout the planning process.

In addition, the public lands must be managed in a manner that recognizes the nation's need for domestic sources of minerals, food, timber, and fiber from the public lands.

Many old laws were repealed, but rights obtained under those laws are protected.

New authority for the disposal of appropriate public lands through sale or exchange is provided.

Right-of-way granting procedures are provided for both the BLM and the USFS.

The regulations contained in 43 CFR Part 1600 govern the BLM planning process.

B.5 Fire

Timber Protection Act (16 U.S.C. 5940)

This act authorizes the Secretary of the Interior to protect timber on lands under the DOI's jurisdiction from fire, disease, and insects

B.6 Fish and Wildlife

A. Animal Damage Control Act (7 U.S.C. 426-426c)

This act, as amended, gives the Secretary of Agriculture broad authority for investigation, demonstrations, and control of mammalian predators, rodents, and birds.

B. Bald Eagle Protection Act (16 U.S.C. 668-668d)

This law provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession, and commerce of such birds, parts, eggs, or nests.

C. Endangered Species Act (16 U.S.C. 1532 et seq.)

This act provides for the conservation of ecosystems upon which threatened and endangered species of fish, wildlife, and plants depend, both through federal action and by encouraging the establishment of state programs. The act:

1. authorizes the determination and listing of species as endangered and threatened;
2. prohibits unauthorized taking, possession, sale, and transport of endangered species;
3. provides authority to acquire land for the conservation of listed species, using land and water conservation funds;
4. authorizes establishment of cooperative agreements and grants-in-aid to states that establish and maintain active and adequate programs for endangered and threatened wildlife and plants;
5. authorizes the assessment of civil and criminal penalties for violating the act or regulations; and
6. authorizes the payment of rewards to anyone furnishing information leading to arrest and conviction for any violation of the act or any regulation issued thereunder.

Section 7 of the Endangered Species Act requires federal agencies to ensure that any action authorized, funded, or carried out by them is not likely to jeopardize the continued existence of listed species or modify their critical habitat.

D. Neotropical Migratory Bird Conservation Act (P.L. 106-247)

This act provides grants to countries in Latin America and the Caribbean, and the United States for the conservation of neotropical migratory birds that winter south of the border and summer in North America. The law encourages habitat protection, education, researching, monitoring, and capacity building to provide for the long-term protection of neotropical migratory birds.

E. Conservation of Migratory Birds (EO 13186, January 10, 2001)

Under the principals of a MOU with the USFWS, each agency shall, to the extent permitted by law, subject to the availability of appropriations, within administration budgetary limits, and in harmony with agency missions, among others:

1. support the conservation intent of the migratory bird conventions by integrating bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
2. restore and enhance the habitat of migratory birds, as practicable;

3. prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable;
4. design migratory bird habitat and population conservation principles, measures, and practices into agency plans and planning processes as practicable;
5. within established authorities and in conjunction with the adoption, amendment, or revision of agency management plans and guidance, ensure that agency plans and actions promote programs and recommendations of comprehensive migratory bird planning efforts; and
6. ensure that environmental analyses of actions required by the NEPA or other established environmental review processes evaluate the effects of actions and agency plans on migratory birds.

F. Recreational Fisheries (EO 12962, June 7, 1995)

Agencies shall improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities by such activities as:

1. developing and encouraging partnerships between governments and the private sector to advance aquatic resource conservation and enhance recreational fishing opportunities;
2. identifying recreational fishing opportunities that are limited by water quality and habitat degradation and promoting restoration to support viable, healthy, and, where feasible, self-sustaining recreational fisheries;
3. fostering sound aquatic conservation and restoration endeavors to benefit recreational fisheries;
4. supporting outreach programs designed to stimulate angler participation in the conservation and restoration of aquatic systems, and implementing laws under their purview in a manner that will conserve, restore, and enhance aquatic systems that support recreational fisheries.

G. Exotic Organisms (EO 11987, May 24, 1977)

Agencies, to the extent permitted by law, are to:

1. restrict the introduction of exotic species into the natural ecosystems on lands and waters owned or leased by the United States;
2. encourage states, local governments, and private citizens to prevent the introduction of exotic species into natural ecosystems of the U.S.;
3. restrict the importation and introduction of exotic species into any natural U.S. ecosystems as a result of activities they undertake, fund, or authorize; and
4. restrict the use of federal funds, programs, or authorities to export native species for introduction into ecosystems outside the U.S. where they do not occur naturally.

B.7 Land

A. Desert Land Act (43 U.S.C. 321 et seq.)

Allows entry of up to 320 acres of desert land of which the entryman intends to reclaim the land for agricultural purposes within 3 years. Lands must be determined to be available and classified pursuant to 43 U.S.C. 315f before such an entry can be allowed.

B. Sales of Public Lands (43 U.S.C. 1713)

Allows the sale of public lands found suitable for use other than grazing or the production of forage crops that also

a. is difficult and uneconomic to manage; or

b. the tract was acquired for a purpose for which the tract is no longer necessary, or

c. disposal of the tract will serve important public objectives

C. Exchanges of Public Land for Non-federal Land (43 U.S.C. 1716)

Allows the exchange of Public Land, or interests therein, for non-federal lands where it is determined (the Secretary finds) that the public interest will be well served by making the exchange. Values of the disposed and acquired lands must be equal in value.

D. Federal Land Exchange Facilitation Act (43 U.S.C. 1716, August 20, 1988)

Basically amends the exchange provisions of FLPMA to streamline and facilitate land exchange procedures and to expedite exchanges.

E. Federal Land Transaction Facilitation Act (PL 106-248, July 25, 2000)

Provides a more expeditious process for disposal and acquisition of land to facilitate a more effective configuration of land ownership patterns.

Funds from the sale of specified land is deposited in a special fund available to acquire land and to process additional land sales.

B.8 Rights-of-Way

With the passage of FLPMA in 1976, BLM was left with existing ROWs (Pre-FLPMA Rights-of-Way) and three basic authorities under which Public Lands may be used or dedicated to various types of ROWs.

A. Pre-FLPMA ROWs (43 U.S.C. 1701 Savings Provision)

Various laws provided for ROWs ranging from ditches and canals through communications to railroads. Some are indefinite in term and will remain under the pre-FLPMA authority until abandoned. Others have definite terms and will come under current authorities if amended or renewed.

B. Oil and Gas Pipeline ROWs (30 U.S.C. 1850

The Mineral Leasing Act of 1920, as amended, contains provisions for the issuance of ROWs for the transportation of natural gas and oil or products derived therefrom. The term of the ROW is limited to 30 years but is renewable. Where an application involves land administered by two or more federal agencies, the Secretary of the Interior has delegated the decision making to the BLM. Federal agencies are not eligible under this authority.

C. FLPMA ROWs (43 U.S.C. 1761 et seq.)

Title V of FLPMA gives the BLM authority to authorize most any type of ROW use, other than oil and gas ROWs, on the public lands. The term of the ROW is determined by need and conditions; it may be indefinite but usually is around 30 years. ROWs are renewable.

D. Federal Aid Highways (23 U.S.C. 317)

Where Federal Aid Highways are involved, the Secretary of Transportation may appropriate federal land for such highway projects. Applications or requests are usually filed by the State Department of Transportation through the local office of the FHWA. If BLM does not disapprove such a request within 120 days, the appropriation is automatic. When BLM issues a letter “consenting” to the appropriation, reasonable terms and conditions may be included.

E. Energy Supply, Distribution, or Use (EO 13211, May 18, 2001)

This order requires an impact and alternative analysis for any proposed rule that would have an adverse impact on energy supply, distribution, or use.

F. Action to Expedite Energy-Related Projects (EO 13212, May 18, 2001)

For energy-related projects, agencies shall expedite their review of permits or take other actions as necessary to accelerate the completion of such projects, while maintaining safety, public health, and environmental protections. The agencies shall take such actions to the extent permitted by law and regulation, and where appropriate.

G. Environmental Stewardship and Transportation Infrastructure Project Reviews (EO 13274, September 18, 2002)

Agencies shall take appropriate actions, to the extent consistent with applicable law and available resources, to promote environmental stewardship in the nation's transportation system and expedite environmental reviews of high-priority transportation infrastructure projects.

For transportation infrastructure projects, agencies shall, in support of the Department of Transportation, formulate and implement administrative, policy, and procedural mechanisms that enable each agency required by law to conduct environmental reviews with respect to such projects to ensure completion of such reviews in a timely and environmentally responsible manner.

H. Energy Policy Act (Pub. L. 109-58)

This act was signed into law on August 8, 2005. The act contains a multitude of provisions covering energy production, distribution, storage, efficiency, conservation, and research. The act requires efficiency standards for certain large appliances and extends Daylight Saving Time to reduce consumption. It provides funding to improve efficiency in low-income housing and expands the Energy Star program. It also requires the Federal Government to increase the efficiency of its buildings and vehicles, and provides tax credits for certain energy-efficient purchases or improvements. Other topics of note are renewable energy, expanding of the Strategic Petroleum Reserve, fuel production access in federal lands, the banning of drilling in the Great Lakes, electricity reliability, hydrogen vehicles, vehicle efficiency and alternative fuels, ethanol, and motor fuels.

B.9 Mining and Mineral Leasing

A. General Mining Law (30 U.S.C. 21 et seq.)

This authority sets forth rules and procedures for the exploration, location, and patenting of lode, placer, and mill site mining claims. Claimants must file notice of the original claim with the BLM as well as annual notice of intention to hold, affidavit of assessment work, or similar notice.

B. Mining and Mineral Policy Act (30 U.S.C. 21a)

This act expressed the national policy to foster and encourage private enterprise in

1. the development of economically sound and stable domestic mining, mineral, metal, and mineral reclamation industries,
2. the orderly and economic development of domestic mineral resources, reserves, and reclamation of metals and minerals to help assure satisfaction of industrial, security and environmental needs,
3. mining, mineral, and metallurgical research, including the use and recycling of scrap to promote the wise and efficient use of our natural and reclaimable mineral resources, and

4. the study and development of methods for the disposal, control, and reclamation of mineral waste products, and the reclamation of mined land, so as to lessen any adverse impact of mineral extraction and processing upon the physical environment that may result from mining or mineral activities.

C. Stock Raising Homestead Act (43 U.S.C. 291-299)

Patents issued under this authority reserved minerals to the United States as well as the right to prospect for, mine, and remove said minerals. Certain conditions exist to protect the patentee's improvements.

D. Mineral Leasing Act (30 U.S.C. 181 et seq.)

This act authorizes and governs leasing of public lands for development of deposits of coal, oil, gas and other hydrocarbons, sulphur, phosphate, potassium, and sodium.

E. Federal Coal Leasing Amendments Act (30 U.S.C. §201)

This act made major changes in the way coal leases tracts are established, economic and environmental considerations, sale/leasing procedures, and penalties for violations.

F. Surface Mining Control and Reclamation Act (30 U.S.C. 1201 et seq.)

This act establishes a program for the regulation of surface mining activities and the reclamation of coal-mined lands, under the administration of the Office of Surface Mining, Reclamation and Enforcement, in the DOI.

The law sets forth minimum uniform requirements for all coal surface mining on federal and state lands, including exploration activities and the surface effects of underground mining. Mine operators are required to minimize disturbances and adverse impact on fish, wildlife, and related environmental values and achieve enhancement of such resources where practicable. Restoration of land and water resources is ranked as a priority in reclamation planning.

G. Geothermal Steam Act (30 U.S.C. 1001 et seq.)

This act authorizes and governs the lease of geothermal steam and related resources on public lands.

H. Mineral Leasing Act for Acquired Lands (30 U.S.C. 351 et seq.)

This act authorizes and governs mineral leasing on acquired lands.

I. Materials Sales Act (30 U.S.C. 601)

Authorizes the sale or free use of vegetative materials and mineral material (so-called common varieties) not otherwise authorized by other law.

B.10 Noise & Vibration

A. Occupational Safety and Health (29 U.S.C. 651 et seq.0

Under the Occupational Safety and Health Act of 1970 (OSHA) (29 U.S.C. Section 651 et seq.), the Department of Labor, Occupational Safety and Health Administration (OSHA) adopted regulations (29 C.F.R. Section 1910.95) designed to protect workers against the effects of occupational noise exposure. These regulations list permissible noise exposure levels as a function of the amount of time during which the worker is exposed. The regulations further specify a hearing conservation program that involves monitoring the noise to which workers are exposed, assuring that workers are made aware of overexposure to noise, and periodically testing the workers' hearing to detect any degradation.

B. Guidelines for Assessing the Impacts of Ground-borne Vibration

The Federal Transit Administration (FTA) has published guidelines for assessing the impacts of ground-borne vibration associated with construction of rail projects, which have been applied by other jurisdictions to other types of projects. The FTA-recommended vibration standards are expressed in terms of the "vibration level," which is calculated from the peak particle velocity measured from ground-borne vibration. The FTA measure of the threshold of perception is 65 vibrational decibel (VdB), which correlates to a peak particle velocity of about 0.002 inches per second (in/sec). The FTA measure of the threshold of architectural damage for conventional sensitive structures is 100 VdB, which correlates to a peak particle velocity of about 0.2 in/sec.

B.11 Pollution—General

A. Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.)

This act regulates the treatment, transportation, storage, and disposal of solid and hazardous wastes. The Service is required to comply with standards for wastes generated at its facilities. The key provisions include:

Identification and listing of hazardous waste and standards applicable to hazardous waste—requires reporting of hazardous waste, permitting for storage, transport, and disposal, and it includes provisions for oil recycling and federal hazardous waste facilities inventories.

1. Management for solid waste, including landfills.
2. Applicability of federal, state, and local laws to federal agencies.
3. Management, replacement, and monitoring of underground storage tanks.

B. Comprehensive Environmental Response Compensation and Liability Act (Superfund) (42 U.S.C. 9601 et seq.)

The “Superfund” statute was enacted in 1980; major amendments were enacted in 1983 and in 1986. The 1980 statute authorized, through 1985, the collection of taxes on crude oil and petroleum products, certain chemicals, and hazardous wastes. It also established liability to the U.S. Government for damage to natural resources over which the U.S. has sovereign rights and requires the President to designate federal officials to act as trustees for natural resources. Use of Superfund monies to conduct natural resource damage assessments was provided.

The 1983 amendments established a comprehensive system to react to releases of hazardous substances and to determine liability and compensation for those affected. The President is authorized to notify federal and state natural resource trustees of potential damages to natural resources and to coordinate related assessments.

Amendments enacted in 1986 (known as the Superfund Amendment and Reauthorization Act, or SARA), among others, 1) added effects on natural resources as a criterion for determining facilities to be placed on the National Priorities List; 2) mandated the designation of federal officials to act as trustees for natural resources and to assess damages and injury to, as well as destruction of, or loss of, natural resources; 3) stipulated that Superfund monies may only be used for natural resource damage claims if all administrative and judicial remedies to recover costs from liable parties have been exhausted; 4) clarified that federal facilities are subject to the same cleanup requirements and liability standards as non-governmental entities, and 5) eliminated the authorization for use of Superfund monies to conduct damage assessments.

C. Federal Environmental Pesticide Control Act (7 U.S.C. §136)

This act, in simple terms, provided for a program for controlling the sale, distribution, and application of pesticides through an administrative registration process and for classifying pesticides for “general” or “restricted” use. “Restricted” pesticides may only be applied by or under the direct supervision of a certified applicator

D. Toxic Substances Control Act (15 U.S.C. 2601 et seq.)

This act authorized the EPA to obtain data from industry on health and environmental effects of chemical substances and mixtures. If unreasonable risk or injury may occur, EPA may regulate, limit, or prohibit the manufacture, processing, commercial distribution, use, and disposal of such chemicals and mixtures.

E. Pollution Prevention Act (42 U.S.C. 13101 et seq.)

This act encourages manufacturers to avoid the generation of pollution by modifying equipment and processes, redesigning products, substituting raw materials, and making improvements in management techniques, training, and inventory control.

F. Federal Compliance with Right to Know Laws and Pollution Prevention Requirements (EO 12856, August 3, 1993)

Requires agencies to comply with the provisions of the Pollution Prevention Act and to assure all necessary actions are taken to prevent pollution. The Council on Environmental Quality provided guidance on pollution prevention in the Federal Register of January 29, 1993.

G. Solid Waste Disposal Act (42 U.S.C. 6901 et seq.)

Establishes a national policy that, wherever feasible, the generation of hazardous waste is to be reduced or eliminated as expeditiously as possible. Waste that is nevertheless generated should be treated, stored, or disposed of so as to minimize the present and future threat to human health and the environment. It directs the EPA to provide guidelines for the treatment, handling, and storage of such wastes.

B.12 Rangelands

A. Taylor Grazing Act (43 U.S.C. 215 et seq.)

The TGA was the Federal Government's first effort to regulate grazing on federal lands. Under the act grazing districts were established of vacant, unreserved, public domain lands which were chiefly valuable for grazing and raising forage crops. Grazing is regulated through leases or licenses for which a fee is paid. Grazing Administration Regulations (43 CFR 4100) provide for the development of state Standards for Rangeland Health and Guideline for Grazing Management. Such standards and guidelines are approved through the BLM's planning and NEPA processes.

The TGA also eliminated settlement on the public domain and provided for the classification and disposal of public lands more valuable for uses other than grazing or the production of forage crops.

B. Public Rangelands Improvement Act (43 U.S.C. 1901 et seq.)

This act was instituted to improve public rangeland conditions in the 16 contiguous western states on which there is, or which are capable of, domestic livestock grazing. Rangeland quality is determined by soil quality, forage values, wildlife habitat, watershed and plant communities, the current state of vegetation in a site in relation to its potential, and the relative degree to which the kinds, proportions, and amounts of vegetation in a plant community resemble the desired plant community.

C. Noxious Plant Control Act (43 U.S.C. §§1241-43)

Authorizes agencies to allow and pay for state authorities to enter federal land for the control/destruction of noxious plants.

D. Federal Noxious Weed Act (7 U.S.C. 2801 et seq.)

This act provides the Secretary of Agriculture authority to designate plants as noxious weeds by regulation and prohibits the movement of all such weeds in interstate or foreign commerce except under permit. The Secretary of Agriculture also has authority to inspect, seize, and destroy products and to quarantine areas, if necessary, to prevent the spread of such weeds. The Secretary of Agriculture is also authorized to cooperate with other federal, state, and local agencies, farmers associations, and private individuals in measures to control, eradicate, or prevent or retard the spread of such weeds.

Each federal land-managing agency is to designate an office or person adequately trained in managing undesirable plant species to develop and coordinate a program to control such plants on the agency's land.

E. Invasive Species (EO 13112, February 3, 1999)

The purpose is to prevent the introduction of invasive species and provide for their control, as well as to minimize the economic, ecological, and human health impacts that invasive species cause.

Agencies whose actions may affect the status of invasive species shall: (1) identify such actions; (2) use relevant programs and authorities to prevent, control, monitor, and research such species; and (3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere.

F. Wild Horses and Burros Act (16 U.S.C. 1331-1340)

This act provides for protection of wild, free-roaming horses and burros. It directs the BLM of the DOI and USFS of the Department of Agriculture to manage such animals on public lands under their jurisdiction.

B.13 Recreation

Recreation and Public Purposes Act (43 U.S.C. 869 et seq.)

This act provides for the lease or disposal of public lands and certain withdrawn or reserved lands to state and local governments, and qualified non-profit organizations to be used for recreational or public purposes. Prices charged for the use or acquisition are normally less than market value of the specific lands. Conditions are imposed in patents, and title may revert to the United States for cause.

B.14 Rivers and Streams

A. Wild & Scenic Rivers Act (16 U.S.C. 1271 et seq.)

This act establishes a National Wild and Scenic Rivers System and prescribes the methods and standards through which additional rivers may be identified and added to the system.

B. American Heritage Rivers (EO 13061, September 11, 1997)

This EO has three objectives: natural resource and environmental protection, economic revitalization, and historic and cultural preservation. Agencies, to the extent permitted by law and consistent with their missions and resources, shall coordinate federal plans, functions, programs, and resources to preserve, protect, and restore rivers and their associated resources important to our history, culture, and natural heritage.

B.15 Trails

National Trails System Act (16 U.S.C. 1241-1249)

This act provides for establishment of National Recreation, National Scenic, and National Historic Trails.

National Recreation Trails may be established by the Secretary of the Interior or Agriculture on land wholly or partly within their jurisdiction with the consent of the involved state(s) and other land managing agencies, if any. National Scenic and National Historic Trails may only be designated by an Act of Congress.

B.16 Water—General

A. Water Resources Planning Act (42 U.S.C. 1962a – 1962[a][4][e])

This act established a Water Resources Council to be composed of Cabinet representatives, including the Secretary of the Interior. It also established River Basin Commissions and stipulated their duties and authorities.

The council was empowered to maintain a continuing assessment of the adequacy of water supplies in each region of the U.S. In addition, the council was mandated to establish principles and standards for federal participants in the preparation of river basin plans and in evaluating federal water projects. Upon receipt of a river basin plan, the council was required to review the plan with respect to agricultural, urban, energy, industrial, recreational, and fish and wildlife needs.

B. Water Rights (43 U.S.C. 666)

This act waives the sovereign immunity of the United States where there is a suit designed to establish the rights to a river or other source of water, or the administration of such rights, and the United States appears to own or be in the process of acquiring rights to any such water. (The effect is to permit state courts to adjudicate federal water rights claims under state law.)

C. Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.)

The original 1948 statute, the Water Pollution Control Act, authorized the Surgeon General of the Public Health Service in cooperation with other federal, state, and local entities to prepare comprehensive programs for eliminating or reducing the pollution of interstate waters and tributaries and improving the sanitary condition of surface and underground waters. During the development of such plans, due regard was to be given to improvements necessary to conserve waters for public water supplies, propagation of fish and aquatic life, recreational purposes, and agricultural and industrial uses. The original statute also authorized the Federal Works Administrator to assist states, municipalities, and interstate agencies in constructing treatment plants to prevent discharges of inadequately treated sewage and other wastes into interstate waters or tributaries.

Since 1948, the original statute has been amended extensively either to authorize additional water quality programs, standards, and procedures to govern allowable discharges, funding for construction grants, or general program funding. Amendments in other years provided for continued authority to conduct program activities or administrative changes to related activities.

D. Clean Water Act (PL 95-217)

The CWA extensively amended the Federal Water Pollution Act. Of particular significance were the following provisions:

1. Development of a BMP Program as part of the state areawide planning program
2. Authority for the USACE to issue general permits on a state, regional, or national basis for any category of activities which are similar in nature will cause only minimal environmental effects when performed separately and will have only minimal cumulative adverse impact on the environment
3. Exemption of various activities from the dredge and fill prohibition including normal farming, silviculture, and ranching activities (33 U.S.C. 1344(f))
4. Procedures for state assumption of the regulatory program.

The CWA requires the EPA to establish water quality standards for specified contaminants in surface waters and forbids the discharge of pollutants from a point source into navigable waters without a National Pollutant Discharge Elimination System (NPDES) permit. NPDES permits are issued by EPA or the appropriate state, if it has assumed responsibility. Section 404 of the CWA establishes a federal program to regulate the discharge of dredged and fill material into waters of the United States. Section 404 permits are issued by the USACE.

E. Safe Drinking Water Act (42 U.S.C. §300h)

This act establishes a program to monitor and increase the safety of all commercially and publically supplied drinking water. Amended in 1986 to require the EPA to establish Maximum Contaminant Levels (MCLs), Maximum Contaminant Level Goals (MCLGs), and Best Available Control Technolocy (BACT) treatment techniques for organic, inorganic, radioactive, and microbial contaminants, and turbidity. Current federal MCLs, MCLGs, and BACTs in public drinking water supplies were set in 1996.

F. Water Quality Act (PL 100-4)

This act provided the most recent series of amendments to the Federal Water Pollution Act. Provisions included:

1. Requirement that states develop strategies for toxics cleanup in waters where the application of BACT discharge standards is not sufficient to meet state water quality standards and support public health;
2. Increase in the penalties for violations of Section 404 permits; and
3. Requirement that EPA study and monitor the water quality effects attributable to the impoundment of water by dams.

G. Flood Control Act (16 U.S.C. 460d and other)

This act, as amended and supplemented by other flood control acts and river and harbor acts, authorizes various USACE water development projects. This statute expressed congressional intent to limit the authorization and construction of navigation, flood control, and other water projects to those having significant benefits for navigation and which could be operated consistently with other river uses. The authority to construct, operate, and maintain public park and recreational facilities in reservoir areas was also provided.

H. Oil Pollution Act (33 U.S.C. 2701 et seq.)

This act established new requirements and extensively amended the Federal Water Pollution Control Act to provide enhanced capabilities for oil spill response and natural resource damage assessment

Among other provisions are that federal trustees shall assess natural resource damages for natural resources under their trusteeship. Federal trustees may, upon request from an Indian tribe or state, assess damages to natural resources for them as well. Trustees shall develop and implement a plan for the restoration, rehabilitation, replacement, or acquisition of the equivalent of natural resources under their trusteeship.

I. Floodplain Management (EO 11988, May 24, 1977)

The purpose of this EO is to prevent agencies from contributing to the "adverse impacts associated with the occupancy and modification of floodplains" and the "direct or indirect support of floodplain development."

In the course of fulfilling their respective authorities, agencies "shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains."

Before proposing, conducting, supporting or allowing an action in a floodplain, each agency is to determine if planned activities will affect the floodplain and evaluate the potential effects of the intended actions on its functions. Agencies shall avoid siting development in a floodplain "to avoid adverse effects and incompatible development in the floodplains,"

J. Protection of Wetlands (EO 11990, May 24, 1977)

Similar to Floodplain Management, agencies are directed to consider alternatives to avoid adverse effects and incompatible developments in areas of wetlands. New construction is to be avoided if possible.

K. Colorado River Storage Project Act (43 U.S.C. 620)

This act authorized the Secretary of the Interior to construct a variety of dams, power plants, reservoirs, and related works. The act also authorized and directed the Secretary of the Interior, in connection with the development of the Colorado River Storage Project and participating projects, to investigate, plan, construct, and operate facilities to mitigate losses of and improve conditions for fish and wildlife and public recreational facilities. The act provided authority to acquire lands and to lease or convey lands and facilities to state and other agencies.

L. Colorado River Basin Project Act (43 U.S.C. 1501-1556)

This act provided a program for the comprehensive development of the water resources of the Colorado River Basin, and directed the Secretary of the Interior to develop, after consultation with affected states and appropriate federal agencies, a regional water plan to serve as the framework under which projects in the Colorado River Basin may be coordinated and constructed.

M. Colorado River Floodway Protection Act (100 Stat. 1129)

This act established a Colorado River Floodway Area, within which are prohibited 1) all new federal funding or financial assistance for any purpose (except for listed exceptions), 2) federal flood insurance for new construction or substantial improvements begun six months after enactment on existing structures, and 3) the granting of new federal leases (unless the Secretary of the Interior determines that the purpose is consistent with the act).

N. Colorado River Basin Salinity Control Act (43 U.S.C. §§1571-1599)

This act authorized the construction of facilities necessary to meet the terms of the 1973 Salinity Agreement with Mexico.

B.17 Wilderness

A. Wilderness Act (16 U.S.C. 1131 et seq.)

This act established a National Wilderness System of areas to be designated by Congress. It directed the Secretary of the Interior, within 10 years, to review every roadless area of 5,000 or more acres and every roadless island (regardless of size) within National Wildlife Refuge and National Park Systems and to recommend to the President the suitability of each such area or island for inclusion in the National Wilderness Preservation System, with final decisions made by Congress. The Secretary of Agriculture was directed to study and recommend suitable areas in the National Forest System.

The act provides criteria for determining suitability and establishes restrictions on activities that can be undertaken on a designated area. Criteria set by Congress within this act states that wilderness areas have the following characteristics: (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and confined types of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value. The Wilderness Act also set the accepted uses of designated WAs and what uses are prohibited. The act sets special provisions for an agency's continuing management of existing or grandfathered rights such as mining and grazing and other agency mission related activities.

B. The California Desert Protection Act (P.L. 103-433)

This act designated lands in the California Desert as wilderness, established Death Valley and Joshua Tree National Parks, and established the Mojave National Preserve. Each WA designated would be administered by BLM in accordance with the provisions of the Wilderness Act, except that any reference to the effective date of the Wilderness Act shall be deemed to be a reference to the effective date of this title.

B.18 Other

A. Base Closure and Realignment Act (Title II of P.L. 100-526)

The act establishes a preference for the sale of land made surplus as a result of base closures or reductions, with the funds to be utilized for the costs of the closures, or for transfer of the land to a local redevelopment authority. It does not require such sales, however, nor does it repeal the provisions of law permitting the no- or reduced-cost transfer of such land to federal agencies or the states for conservation purposes.

B. Cave Resources Protection Act (16 U.S.C. 4301 et seq.)

This act established requirements for the management and protection of caves and their resources on federal lands, including allowing the land managing agencies to withhold the location of caves from the public and requiring permits for any removal or collecting activities in caves on federal lands.

C. Federal Power Act (16 U.S.C. §§791-828c)

Established what is now the Federal Energy Regulatory Commission (FERC) studies water-related power development possibilities. Licenses and oversees the development of water power project on federal and non-federal lands. On federal land coordinates with agencies and for some agencies they may dictate conditions to be included in licenses.

The FERC also regulates interstate electric transmission lines and interstate oil and gas pipelines, and issues 'certificates of public convenience' for these interstate facilities.

D. Land and Water Conservation Fund (16 U.S.C. 460l - 460l-11)

The fund is derived from various types of revenue (primarily Outer Continental Shelf oil monies) and appropriations from the fund may be used for 1) matching grants to states for outdoor recreation projects and 2) land acquisition for various federal agencies.

E. Federalism (EO 13132, August 4, 1999)

In formulating and implementing policies that have federalism implications, agencies shall be guided by the following principles:

1. Federalism is rooted in the belief that issues that are not national in scope or significance are most appropriately addressed by the level of government closest to the people.
2. The people of the states created the national government and delegated to it enumerated governmental powers. All other sovereign powers, save those expressly prohibited the states by the Constitution, are reserved to the states or to the people.
3. The framers of the Constitution recognized that the states possess unique authorities, qualities, and abilities to meet the needs of the people and should function as laboratories of democracy.
4. The nature of our constitutional system encourages a healthy diversity in the public policies adopted by the people of the several states according to their own conditions, needs, and desires. One-size-fits-all approaches to public policy problems can inhibit the creation of effective solutions to those problems.
5. Policies of the national government should recognize the responsibility of—and should encourage opportunities for—individuals, families, neighborhoods, local governments, and

private associations to achieve their personal, social, and economic objectives through cooperative effort.

6. The national government should be deferential to the states when taking action that affects the policymaking discretion of the states and should act only with the greatest caution where state or local governments have identified uncertainties regarding the constitutional or statutory authority of the national government.

F. Takings (EO 12630, March 15, 1988)

The Fifth Amendment of the United States Constitution provides that private property shall not be taken for public use without just compensation. Government historically has used the formal exercise of the power of eminent domain, which provides orderly processes for paying just compensation to acquire private property for public use. Recent Supreme Court decisions, however, in reaffirming the fundamental protection of private property rights provided by the Fifth Amendment and in assessing the nature of governmental actions that have an impact on constitutionally protected property rights, have also reaffirmed that governmental actions that do not formally invoke the condemnation power, including regulations, may result in a taking for which just compensation is required.

Agencies shall evaluate carefully the effect of their actions on constitutionally protected property rights to prevent unnecessary takings and should account in decision making for those takings that are necessitated by statutory mandate.

G. Regulatory Impact Analysis(EO 12866, September 30, 1993)

Requires agencies to analyze the economic impact of proposed rules.

H. Off-Road Vehicles (EO 11644, February 8, 1972; EO 11989, May 24, 1977)

These orders require public land managers “to establish policies and procedures that will ensure that the use of off-road vehicles on public lands will be controlled and directed to protect the resources of those lands, to promote the safety of all users of those lands, and to minimize conflicts among the various uses of those lands.”

APPENDIX C

Results of Scoping

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United States Department of the Interior
Bureau of Land Management
Palm Springs-South Coast Field Office

Blythe Solar Power Project

BLM Land Use Application
File # CACA-48811

SCOPING REPORT

RESULTS OF SCOPING

January 2010

Palm Springs-South Coast Field Office
1201 Bird Center Drive
Palm Springs, CA 92262

Approved by: ______________________ ____________
John R. Kalish Date
Field Manager

Blythe Solar Power Project

I. Introduction

A. Brief Description of the Project

Solar Millennium, LLC and Chevron Energy Solutions propose the Blythe Solar Power Project (BSPP), a concentrated solar thermal electric generating facility comprised of four 242 megawatt (MW) plant units with a nominal capacity of 968 MW capable of supplying enough renewable electricity for 300,000 homes.

If approved, the BSPP would be located on public land managed by the Bureau of Land Management (BLM) approximately 2 miles north of the I-10 freeway, and 8 miles west of the City of Blythe, California (See Project Location Map below). The Project includes a 500-kilovolt (kV) transmission line that will interconnect with the regional grid at Southern California Edison's (SCE) planned Colorado River Substation about 5 miles southwest of the plant site. The Applicants have applied for a right-of-way (ROW) grant from BLM for approximately 9,400-acres of flat desert terrain. Within these 9,400 acres, construction and operation would disturb approx. 7,250 acres.

The Project would utilize solar parabolic trough technology to generate electricity. With this technology, arrays of parabolic mirrors collect radiant energy from the sun and refocus the energy on a receiver tube located at the focal point of the parabola. Through this process, a heat transfer fluid (HTF) is heated to high temperature (approx. 750°F) and piped through heat exchangers where it is used to generate high-pressure steam. The steam is then fed to a traditional steam turbine generator to generate electricity.

B. Potential Land Use Plan Amendment to the California Desert Conservation Area Plan

The Project would be located on land that is subject to the BLM's California Desert Conservation Area (CDCA) Plan. All of the public lands in the CDCA under BLM management, except for a few small and scattered parcels, have been designated geographically as a Multiple Use Class (MUC) as follows: Controlled Use (C), Limited Use (L), Moderate Use (M), and Intensive Use (I). The Project would be located in BLM designated L lands. For L lands, wind and solar electric generation facilities may be allowed after National Environmental Policy Act (NEPA) requirements are met. The CDCA also states that sites associated with power generation or transmission not identified in the CDCA will be considered through the Plan Amendment process. The Project site is currently not identified in the CDCA. Therefore prior to ROW grant issuance, the Project would require a Land Use Plan Amendment to the CDCA.

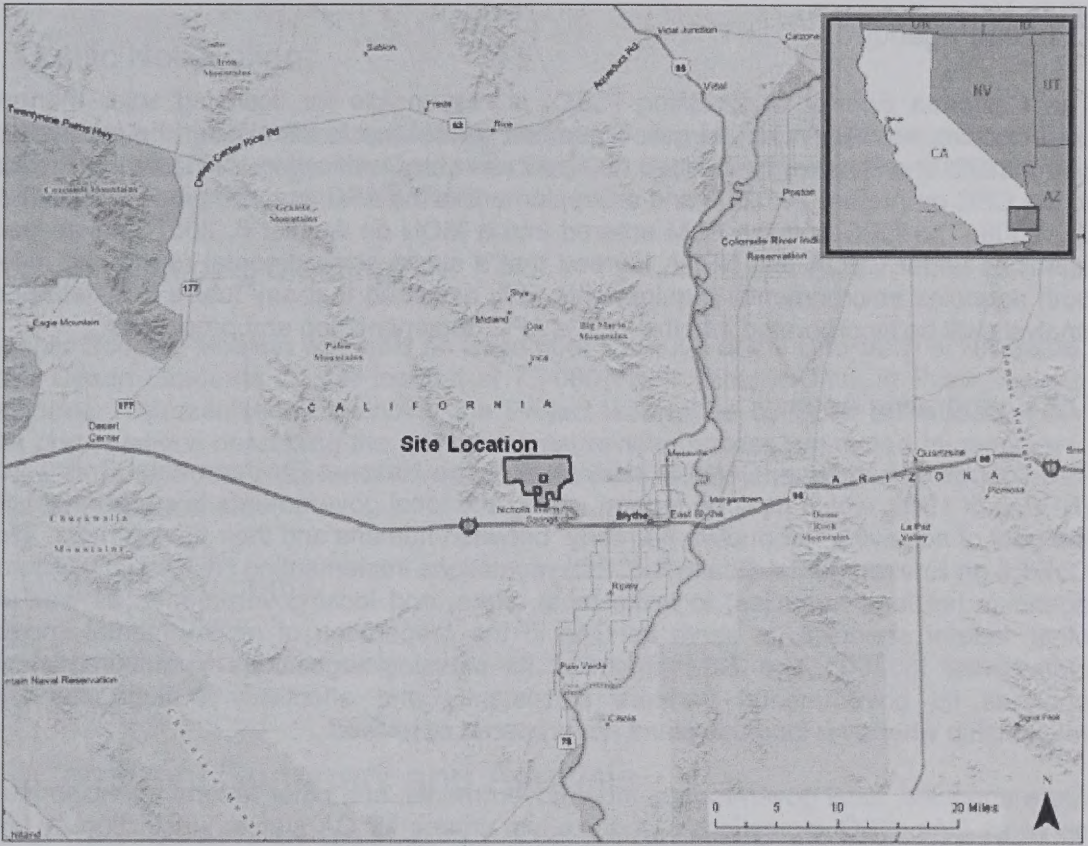

Figure 1: Project Location

C. Purpose and Need for the Project

The Proponent proposes to assist the State of California in meeting the State of California Renewable Portfolio Standard Program goals and reduce greenhouse gases by developing a 968 megawatt solar thermal energy production plant and related facilities in Riverside County, California on Bureau of Land Management (BLM) administered lands.

BLM's purpose and need for the Solar project is to respond to the Proponent's application under Title V of the Federal Land Policy and Management Act of 1976 (43 USC 1761) for a right-of-way grant to construct, operate and decommission a solar thermal facility on BLM lands. BLM will consider alternatives to the Proponent's proposed action and will include terms and conditions. If BLM decides to approve issuance of a ROW grant to the Proponent, BLM's actions would include amending the California Desert Conservation Area Plan concurrently. BLM will take into consideration the provisions of the Energy Policy Act of 2005 in responding to the Proponent's application.

D. Agency Coordination

D.1 Lead Agency

The California Energy Commission (CEC) is responsible for licensing solar thermal projects that are 50 MW and larger. Therefore, the Project is also under the jurisdiction of the CEC. The Applicant submitted an Application for Certification (AFC) for the Project to the CEC on August 24, 2009 and a Supplement to the AFC was submitted on October 26, 2009. The CEC and the BLM entered into a MOU on August 8, 2007 and as lead agencies under CEQA and NEPA, agreed that a single environmental report can meet both agencies environmental requirements. It is assumed that any future EIS data and analysis will be incorporated into the CEC's AFC documentation and processes.

D.2 Cooperating Agency

The cooperating agency (CA) role derives from the National Environmental Policy Act (NEPA) of 1969, which calls on federal, state, and local governments to cooperate with the goal of achieving "productive harmony" between humans and their environment. The Council on Environmental Quality's (CEQ) regulations implementing NEPA allow federal agencies (as lead agencies) to invite tribal, state, and local governments, as well as other federal agencies, to serve as CAs in the preparation of environmental impact statements. In 2005, the BLM amended its planning regulations to ensure that it engages its governmental partners consistently and effectively through the CA relationship whenever land use plans are prepared or revised.

State agencies, local governments, tribal governments, and other federal agencies may serve as CAs. CEQ regulations recognize two criteria for CA status: jurisdiction by law and special expertise. The BLM regulations incorporate these criteria.

40 CFR 1508.5 (CEQ) Defining eligibility. "Cooperating agency" means any Federal agency other than a lead agency which has "jurisdiction by law" or "special expertise" with respect to any environmental impact....A State or local agency of similar qualifications or, when the effects are on a reservation, an Indian Tribe, may by agreement with the lead agency become a cooperating agency.

The BLM has invited approximately 29 tribes and multiple state and local agencies to participate in the planning process as Cooperating Agencies. To date, no agencies have agreed to be Cooperating Agencies.

II. Scoping Process Summary

A. Notice of Intent

The BLM published a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) on November 23, 2009 in the Federal Register. Publication of the NOI began a 30-day comment period which ended on December 23, 2009. BLM provided a website with Project information that also described the various methods of providing public comment on the Project including an e-mail address where comments could be sent electronically.

B. Public Notification

Notification for a public Scoping Meeting held on December 11, 2009 appeared in the Desert Sun local newspaper on November 24, 2009. Notification was also published on the BLM website on November 23, 2009.

C. Public Scoping Meeting

A public Scoping Meeting was held on December 11, 2009 at the University of Riverside Palm Desert Graduate Center located at 75-080 Frank Sinatra Drive in Palm Desert, California. A presentation describing the Project was made by Solar Millennium, LLC with presentations describing the environmental review process presented by members of the BLM and CEC. Seventy-five attendees were documented by signing in on a voluntary sign-in sheet.

D. Written Comments

Fourteen comment letters were received within the comment period ending on December 23, 2009.

III. Comment Summary and Analysis

Issues were identified by reviewing the comment documents received. Many of the comments identified similar issues; all of the public comment documents were reviewed and the following section provides a summary of the issues, concerns, and/or questions raised. For this report, the issues have been grouped into one of the three following categories:

- Issues or concerns that could be addressed by effects analysis;
- Issues or concerns that could develop an alternative and/or a better description or qualification of the alternatives;
- Issues or concerns outside the scope of the EIS.

The comments discussed below are paraphrased from the original comment letters. To a minor degree, some level of interpretation was needed to identify the specific concern to be addressed. Many of the comments identified similar issues; to avoid duplication and redundancy similar comments were grouped together and then summarized. Original comment letters may be reviewed up on request at the BLM Palm Springs-South Coast Field Office at 1201 Bird Center Drive, Palm Springs, California, 92262, during normal business hours, from 8:00 am to 4:30 pm.

A. Effects Analysis

Comments in this category will be described in detail in the affected environment section of the EIS or addressed in the effects analysis for each alternative.

Purpose and Need

- Project description should not be narrowly defined to rule out feasible alternatives
- Project should be discussed in the context of the larger energy market; identify potential purchasers of the power produced; discuss how project will assist in meeting its renewable energy portfolio standards and goals

Air Resources (Air sheds)

- Greenhouse gas emissions/climate change impacts on plants, wildlife, and habitat
- Planning for species adaptation due to climate change
- Discussion of how projected impacts could be exacerbated by climate change
- Quantify and disclose anticipated climate change benefits of solar energy
- Discussion of trenching/grading/filling and effects on carbon sequestration of the natural desert

Soils Resources

- Impacts to desert soils
- Increased siltation during flooding and dust
- Impacts to crypto-biotic crust
- Preparation of a drainage, erosion, and sediment control plan

Water Resources (Surface and Ground water)

- If new wells will draw water from mainstream of the lower Colorado River, an entitlement to the use of Colorado River water is required by Section 5 of the Boulder Canyon Project Act (BCPA) and by the Consolidated Decree. If entitlement is required, it must be satisfied from Colorado River water apportioned for used within the State of California by the Secretary in accordance with the terms of the Consolidated Decree. The entitlement to be used for a proposed solar project may be an existing entitlement made available for this purpose by an existing entitlement holder either directly or through exchange.
- Identify impacts to jurisdictional waters of the US and California
- Effects of additional groundwater pumping in conjunction with other groundwater issues
- Groundwater and surface water impacts in the McCoy Wash region
- Subsidence potential
- Impacts to downgradient groundwater, surface water, and wetlands

- Effects of diversion of water from ephemeral streams
- Water supply impacts related to dust control, fire prevention and containment, vegetation management, sanitation, equipment maintenance, construction, and human consumption
- Description of water conservation measures to reduce water demands
- Effects of climate change on water supply
- Discussion of potential effects of project discharges, if any, on surface and groundwater quality
- Disposal of wastewater or other fluids, if any
- Determination if project requires a Section 404 permit under the Clean Water Act (CWA)
- Suggests BLM include a jurisdictional delineation for all Waters of the US, including ephemeral drainages
- Description of natural drainage patterns, project operations, identify whether any component of project is within 50 or 100-year floodplain
- Provide information on CWA Section 303(d) impaired waters, if any, and efforts to develop and revise TMDLs

Biological Resources

- If there are threatened or endangered species present, recommend BLM consult with USFWS and prepare a Biological Opinion under Section 7 of the ESA
- Consider adopting a formal adaptive management plan
- Seasonal surveys should be performed for sensitive plant and animal species
- Maximize options to protect habitat and minimize habitat loss and fragmentation
- Impacts associated with constructing fences
- Impacts due to increase of shade in the desert environment
- Seasonal surveys should be performed for sensitive plant and animal species
- Impacts to all known species, not just special status, should be analyzed to assure ecosystem level protection—permanent loss of habitat and associated species is significant and cannot be mitigated
- If ponded water or bioremediation areas would attract wildlife, particularly migratory waterfowl
- Impacts to all known species, not just special status, should be analyzed to assure ecosystem level protection—permanent loss of 7,000 acres of habitat and associated species is significant and cannot be mitigated
- Acquisition of lands for conservation should be part of mitigation strategy
- Identify fire prevention BMP due to use of high temperature liquids
- Impacts regarding habitat fragmentation and loss of connectivity

Vegetation Resources (Vegetative communities, priority and special status species)

- Seasonal surveys should be performed for sensitive plant species—lack of fall surveys may under represent onsite plants
- Vegetation maps should be at scale that is useful for evaluating impacts
- Impacts due to non-native invasive species
- Inclusion of an invasive plant management plan
- Impacts to the following species:
    - Las Animas colubrine
    - Dwarf germander
    - Harwood's milkvetch
    - Coachella Valley milkvetch

Wildlife Resources (Priority species, special status species)

- Desert tortoise impacts; project site located within the Eastern Colorado Desert Tortoise Recovery Unit
- Impacts to the following species:
    - Burrowing owl (two owls onsite and 1,000 suitable burrows)
    - Desert bighorn sheep
    - American badger
    - Loggerhead shrike
    - Swainson's hawk
    - Ferruginous hawk
    - Yellow warbler
    - Mojave fringe-toed lizard
- Impacts to wildlife movement corridors, especially kit fox, badger and mountain lion
- Preserve large landscape-level migration areas

Cultural Resources

- Has a 100 percent archaeological inventory been conducted pursuant to Section 106 of the National Historic Preservation Act and BLM Manual 8100?
- Have archaeological sites been evaluated pursuant to the National Register of Historic Places criteria?
- Has consultation with Native Americans take place?

Visual Resources

- Baseline for visual resources has not been categorized
- Avoid impacting visually sensitive areas

Land Use/Special Designations (ACECs, WAs, WSAs, etc.)

- Applicant implies that biological resources within project area are not sensitive because not located within ACEC or Desert Wildlife Management Area (DWMA), but many areas outside such designated areas do contain significant biological resources
- Evaluation of consistency with land use and regulatory plans, including Executive Order 11644, which allows for use of off-road vehicles on public lands
- Describe reasonably foreseeable future land use and associated impacts resulting from additional power supply
- Consider direct and indirect effects of the inter-connecting transmission line

Public Health and Safety

- Identify fire prevention BMP due to use of high temperature liquids
- Discussion if bioremediation areas are to be used for soil contaminated by heat transfer fluid
- Discussion of concentrated, dewatered solid waste associated with evaporation ponds

Noise/Vibration

- Consider wildlife as sensitive receptors
- Dry cooling process noise/vibration impacts on wildlife

Recreation (RMAs, facilities, LTVAs, dispersed recreation opportunities, etc.)

- Evaluation should include impacts regarding off-highway vehicle use (OHV), camping, photography, hiking, wildlife viewing, and rockhounding
- Evaluation should include number of users, value of affected land for recreational purposes, and need to locate and acquire replacement venues for lands lost
- Indirect impacts caused by displacing recreational users
- Cumulative loss of land available for OHV recreation

Social and Economic Setting

- Evaluation of economic impacts due to construction, implementation, and operation
- Economic impacts regarding loss of commerce due to recreational use losses

Environmental Justice (minority and low-income communities)

- Evaluation whether diminished recreational access would be placed disproportionately on minorities and low-income communities

Cumulative Impacts

- Identify impacts from other projects occurring in the vicinity, including solar, wind, geothermal, roads, transit, housing, ORV use, military maneuvers, and other development
- Cumulative analysis area should encompass the Sonoran/transition desert areas of the California desert at a minimum
- Some reasonably foreseeable projects in the vicinity include all the solar and wind applications along Interstate-10
- Cumulative analysis area should include region of McCoy Mountains to the McCoy Wash

B. Alternative Development and/or Alternative Design Criteria

Comments in this category will be considered in the development of alternatives or can be addressed through design criteria in the alternative descriptions.

- Project description should not be narrowly defined to rule out feasible alternatives
- Proposed footprint intrudes into bajadas with extensive washes and microphyll woodland—alternative should include elimination of all major drainages and the western half of the project site
- Moving project off of western and northern portion of the proposed footprint and onto adjacent degraded areas would reduce project impacts and potentially retain area for 250MW units
- Preferred alternative should consider conjunctive use of disturbed private land in combination with adjacent lower value federal land
- Owens Lake “dust project” area as potential alternative site
- Alternatives should include: sites not under BLM jurisdiction; project extent and electrical power generation that differ from proposal; use of different technology
- Alternatives should include use of already disturbed lands
- Alternatives should describe rationale used to determine whether impacts of an alternative are significant or not
- Discuss feasibility of using residential and wholesale distributed generation, in conjunction with increased energy efficiency, as an alternative

C. Issues or Concerns Outside the Scope of the EIS

Comments in this category are outside the scope of analysis and will not be addressed in the EIS. Rationale for considering these comments out-of-scope is included.

- Agencies must require adequate end of project life planning, including reuse of abandoned sites for future renewable energy projects in lieu of allowing development on other undisturbed lands; and/or returning to public use in original condition

- What mix of distributed PV, wind energy, and transmission dependent “Big Solar” best fits with forecast demand in 2020?
- Consider development wherein solar and wind is focused first on lands which have lower resource value due to fragmentation, type conversion, edge effects, and other factors
- Include independent analysis of resource values of various renewable energy zones under consideration

APPENDIX D
Cultural Resources

D.1 Cultural Resources Inventory

The development of a cultural resources inventory entails working through a sequence of investigatory phases. Generally the research process proceeds from the known to the unknown. These phases typically involve doing background research to identify known cultural resources, conducting fieldwork to collect requisite primary data on not-yet-identified cultural resources within and near the proposed project, assessing the results of any geoarchaeological studies or environmental assessments completed for the proposed project site, and compiling recommendations or determinations of historical significance for any cultural resources that are identified.

This appendix describes the research methods used by the Applicant for each phase and provides the results of the research, including literature and records searches (California Historical Resources Information System (CHRIS) and local records), archival research, Native American consultation, and field investigations.

D.1.1 Background Inventory Research

Various repositories in California hold information on the locations and descriptions of cultural resources older than 45 years that have been identified and recorded in past cultural resources surveys. Applicants acquire information specific to the vicinity of their project from these repositories. Additionally, to acquire further information on potential cultural resources in the vicinity of a proposed project, the Applicant makes inquiries of knowledgeable individuals in local agencies and organizations and consults Native Americans who have expressed an interest in being informed about development projects in areas to which they have traditional ties.

CHRIS Records Search

The California Historical Resources Information System, or CHRIS, is a federation of 11 independent cultural resources data repositories overseen by the California State Office of Historic Preservation. These centers are located around the state, and each holds information about the cultural resources of several surrounding counties. Qualified cultural resources specialists obtain data on known resources from these centers and in turn submit new data from their ongoing research to the centers.

Under BLM's protocol for inventory-level cultural resources investigations on lands for which a Right-of-Way (ROW) grant has been requested, the Applicant undertakes a Class I survey. This is a preliminary gathering of data for known sites and other resources from published and unpublished documents, records, files, registers, and other sources, and is intended to produce an analysis and synthesis of all reasonably available data. A Class I survey encompasses prehistoric, historic, and ethnological/sociological elements and essentially chronicles past land uses (BLM 2004, sec. 8110.21).

For the Class I survey of the proposed BSPP, intended to compile information on known cultural resources and previously conducted cultural resources studies pertinent to the location of the proposed BSPP, the Applicant's cultural resources consultant, AECOM EDAW, conducted records searches at the Eastern Information Center (EIC, part of the CHRIS) at the University of California, Riverside. Searches conducted on February 11, 2009, and October 15, 2009, were for the area within a 1.0-mile radius of the proposed plant site and within a 0.25-mile radius of the routes of all proposed linear facilities (Solar Millennium 2009a, vol. 1, p. 5.4-18; EDAW 2009b, p. 16).

Additionally, AECOM EDAW searched the following sources to identify other known cultural resources (Solar Millennium 2009a, vol. 1, p. 5.4-18):

1. National Register of Historic Places (NRHP)
2. California Register of Historical Resources (CRHR)
3. Local listings
4. BLM site files

CHRIS Records Search Results

AECOM EDAW obtained from the EIC 26 reports of previous investigations covering parts of the area within a 0.1-mile radius of all BSPP project components. Ten of these were cultural resources survey reports covering parts of the BSPP APE (King et al.1973, Greenwood 1977, Cowan and Wallof 1977, BLM 1978, Reed 1984, Wilson 1984, Padon et al. 1990, McDonald and Schaefer 1998, McDougall et al. 2006, and Schaefer et al. 1998). One study was a records search (Schaefer 2003), one reported site sampling and evaluation (Mitchell 1989), and one was a regional overview (Von Till Warren et al. 1980). The surveys covered only small areas of the proposed BSPP APE, so the most pertinent of the 13 studies to the BSPP cultural resources assessment are the regional overview by Von Till Warren et al. (1980) and the sampling and evaluation of prehistoric quarry sites by Mitchell (1989).

The overview depicts a region of archaeological resources that, for both the prehistoric and historic periods, represent primarily transportation and resource exploitation. In this landscape, people have mostly left remains of being in transit or of extracting useful or valuable materials—Native Americans sought and removed food, toolstones, and other raw materials for manufacturing, and Euro-Americans sought and removed various minerals. The trails and roads that cross the BSPP APE either took people across the region or went to the places where the desired resources were found (Von Till Warren et al. 1980). An important exception to this generality is the use of the region by the U.S. military for training on a large scale, both early in World War II and just prior to involvement in Vietnam.

The BLM archaeologist who sampled and evaluated ancient Colorado River pebble terraces (one of which is located at the edge of the proposed BSPP plant site) explored Native American extractive behavior at several sites recognized as prehistoric quarries. He analyzed Native American behavior in assaying, roughly preparing, and collecting material appropriate for the manufacture of stone tools elsewhere. Additionally the study identified other nearby sites indicative of other aspects of toolstone acquisition behavior, such as temporary habitation sites. The study also evaluated the NRHP eligibility of the terrace quarries and their integrity, which has suffered in recent times from the mechanized removal of the water-rounded rocks for use in masonry and landscaping—another desert extractive activity (Mitchell 1989).

AECOM EDAW obtained from the EIC 71 records of previously known cultural resources located within a 1.0-mile radius of the APE, including

4 prehistoric trail segments, 1 with an associated lithic scatter

1 prehistoric rock alignment

1 prehistoric geoglyph

7 prehistoric quarries, 1 with an associated lithic scatter

2 prehistoric cleared areas, both with associated lithic scatters, and1 with a trail segment

1 prehistoric temporary camp

6 prehistoric ceramic sherd scatters

16 prehistoric lithic scatters

1 prehistoric fire-affected rock feature

1 prehistoric lithic and ceramic sherd scatter

1 historic-period two-track road

1 historic-period refuse deposit, with structural remains

2 historic-period military camps, with tent platforms, animal enclosures, and refuse deposits

9 historic-period refuse deposits

18 isolated finds (10 prehistoric and 8 historic-period)

Eight of these previously known resources were located within or near the boundary of the proposed BSPP. Seven of these resources were prehistoric or historic-period archaeological sites, and one was a prehistoric isolated find. Two of the prehistoric sites were located on a private property in-holding within the proposed plant site. When relocated in 2009, one of the latter (CA-Riv-1464), recorded in 1978 as a prehistoric trail segment, was found to have been replaced by a graded road. So, either this resource, which ran along the in-holding boundary, had never been a prehistoric trail, or any prehistoric trail that had been there was now destroyed. Consequently, this resource is not included in the inventory. As is common practice in cultural resources management, isolated finds are eliminated from consideration, but the other six known sites (CA-Riv-1136, CA-Riv-2846, CA-Riv-3419, CA-Riv-7175, CA-Riv-9011, and P-33-9670) are listed in Table 1, with all newly identified archaeological sites, as resources located within the BSPP APEs. Included in that list is the other resource located on the private in-holding because the BSPP Applicant is understood to be negotiating the purchase of the in-holding and so could have eventual responsibility for the site.

Archival and Library Research

Detailed resource-specific information needed may entail primary and secondary research in various archives and libraries, holding such sources as historic aerial photography, historic maps, city directories, and assessors' records. The Applicant may include archival information as part of the information provided or may undertake such research to respond to data requests.

To identify any sites or structures older than 45 years, AECOM EDAW reviewed historic maps which could be referenced on-line, dating between 1903 and 1983. They also visited the General Patton Memorial Museum on April 30, 2009, and the Palo Verde Historical Museum and Society on May 4–5, 2009. They also visited the Palo Verde Irrigation District where they reviewed historic aerial photographs from 1938, 1942, 1951, 1953, 1959, 1960, 1965, 1970, 1973, 1992, and 1994, and also examined additional historic maps (EDAW 2010a, p. 87).

Archival and Library Research Results

AECOM EDAW acquired historical data on the project vicinity, but identified no additional cultural resources in or near the BSPP APE (EDAW 2010a, pp. 86–87).

Inquiries to Local Agencies and Organizations

California counties and cities may recognize particular cultural resources as locally historically important by ordinance, in general plans, or by maintaining specific lists. Local archaeological and historical organizations may also maintain lists of historically important resources. To facilitate the environmental review of their projects, Applicants acquire information on locally recognized cultural resources specific to the vicinity of their project by consulting local planning agencies and local historical and archaeological societies.

On June 1, 2009, AECOM EDAW contacted various public agencies and historical and archaeological societies requesting information regarding historic or other cultural resources within or adjacent to the BSPP:

1. Riverside County Historical Commission;
2. General Patton Memorial Museum;
3. Historic Resources Management Programs, University of California, Riverside;
4. Palm Springs Air Museum;
5. Palm Springs Historical Society; and
6. Palo Verde Historical Museum and Society.

Results of Inquiries to Local Agencies and Organizations

The Applicant had received no responses to its inquires to local agencies and historical organizations by August 24, 2009 (EDAW 2010a, p. 91), and so identified no additional cultural resources.

Native American Consultation

The Native American Heritage Commission (NAHC) maintains two databases to assist cultural resources specialists in identifying cultural resources of concern to California Native Americans, referred to as Native American ethnographic resources. The NAHC's Sacred Lands database has records for places and objects that Native Americans consider sacred or otherwise important, such as cemeteries and gathering places for traditional foods and materials. The NAHC Contacts database has the names and contact information for individuals, representing a group or themselves, who have expressed an interest in being contacted about development projects in specified areas. Applicants request information from the NAHC on the presence of sacred lands in the vicinity of a proposed project and also request a list of Native Americans to whom inquiries will be made to identify both additional cultural resources and any concerns the Native Americans may have about a proposed project. In addition, the BLM must formally consult, government-to-government, with the federally recognized Indian tribes that have traditional cultural ties to the area in which the project is located.

On April 13, 2009, AECOM EDAW asked the Native American Heritage Commission (NAHC) to search its Sacred Lands File for any Native American traditional cultural properties and to send to the Applicant a list of Native Americans who had heritage ties to Riverside County and wanted to be informed about new development projects there. The NAHC responded on April 20, 2008, indicating a negative return from the search of their Sacred Lands File, but cautioning that many Native American cultural resources were known for the project area (EDAW 2010a, p. 88). The NAHC also provided contact information for 15 Native American individuals or groups, representing the Cahuilla, the Serrano, the Chemehuevi, the Mojave, and the Luiseño. The Applicant sent letters to these persons on May 1, 2009, describing the proposed BSPP and requesting information on known cultural resources that could be affected by the project, and at various later dates AECOM EDAW made follow-up contact by telephone calls, faxes, and emails. Upon the recommendation of one of their initial contacts, AECOM EDAW also contacted a representative of the Cocopah on August 14, 2009 (EDAW 2010a, p. 88).

AECOM EDAW received no response from nine Native American contacts. The responses received included indications of no comment from representatives of the Mojave and the Luiseño, requests for additional information from representatives of two Cahuilla groups and of the Cocopah, and three letters expressing concern about cultural resources that could be present and about project impacts.

Bennae Calac, Tribal Council Member of the Pauma Valley Band of Luiseño Indians, stated that the Luiseño had no comment, but he recommended that AECOM and the BLM contact other regional tribes that might be interested in the project. Esadora Evanston, Environmental

Coordinator for the Fort Mojave Indian Tribe, responded that her department has no comment on the BSPP, but other representatives of the tribe could comment independently. Patricia Tuck, Tribal Historic Preservation Officer for the Agua Caliente Band of Cahuilla Indians, requested a summary report of the BSPP archaeological survey to review before commenting on the project.

Joseph R. Benitez, a Chemehuevi tribal member, in his June 14, 2009 letter, provided the information that the Chemehuevi and Halchidhoma used locations in the project vicinity “as gathering places,” which AECOM EDAW interpreted to mean places where people got together “for social functions and ceremonial activities.” Mr. Benitez may also have meant places where various plant foods were gathered by these groups. Mr. Benitez also suggested that AECOM EDAW contact the Chemehuevi Band of Indians directly, which AECOM EDAW had previously done (EDAW 2010a, p. 88).

Writing on July 27, 2009, Diana L. Chihuahua, Cultural Resources Coordinator for the Torres-Martinez Desert Cahuilla Indians, explained that the project area is not located within the Torres-Martinez Reservation and is outside of the Cahuilla’s traditional use areas. She suggested the Cocopah Tribe should be contacted for comment, as the proposed project is closer to their traditional use area. She explained that the greatest concern of the Cahuilla tribe is the potential for inadvertent discovery of human remains in the project area. In addition, she made several recommendations (Galati & Blek 2010a, att. 3):

1. Any cultural resources documentation or assessment of Cocopah cultural, sacred, or traditional cultural property sites should be made available to local tribes.

2. A qualified archaeologist, accompanied at all times by a cultural resources monitor, should complete a 100 percent cultural resources inventory of the project area.

3. Approved cultural resources monitors should be present during all ground-disturbing activities and be authorized to halt construction if buried cultural deposits are encountered and to bring in an archaeologist meeting the Secretary of the Interior’s Professional Standards to investigate and prepare a mitigation plan for county and tribal approval.

4. The project should comply with state law and notify the coroner, if human remains are found, and notify the Native American Heritage Commission if the coroner identifies the remains as Native American.

5. Copies of any documentation of cultural resources should be sent to the Cahuilla Torres-Martinez Desert Cahuilla Indians.

Following Ms. Chihuahua’s recommendation, AECOM EDAW contacted representatives of the Cocopah Indian Tribe on August 14, 2009. Jill McCormack, Cultural Resources Manager for the Cocopah Indian Tribe responded in a letter dated August 28, 2009, and requested more information and further discussion of the project (EDAW 2010a, p. 88). AECOM EDAW spoke on the telephone to Ms. McCormack on September 24, 2009, answering her questions about the project schedule, the completeness of the cultural resources survey, and a preliminary description of the newly identified cultural resources. Ms. McCormack stated that she would contact the BLM for more information on the project (Solar Millennium 2009b, att. 3).

The cultural resources specialist at the BLM Palm Springs Field Office conducted formal government-to-government consultation with Native Americans.

With the filing of the application for a ROW, the BLM took the lead in formal, government-to-government tribal consultation pursuant to the NHPA as well as other laws and regulations. The NAHC was contacted by letter about the project, and they provided a list of Native American contacts. BLM then initiated Section 106 consultation in the early stages of project planning by letter in November, 2009, and has followed up with an additional letter and other information since then. To date, thirteen tribes or related entities have been identified and invited to consult on this project, including those listed below. Tribes were also invited to a general information meeting and proposed project site visit, held on January 25, 2009. BLM has thus far received one written comment letter, from Ms. Diana L. Chihuahua, the Torres-Martinez Desert Cahuilla Indians Cultural Resources Coordinator.

On February 10, 2010, the BLM Palm Springs Field Office Manager, John Kalish, and Palm Springs Field Office Archaeologist George Kline met with the Ft. Yuma Quechan Tribal Council. They provided information on several solar energy projects, including the BSPP, and answered questions. Communications have been ongoing between concerned parties since the early planning efforts in the summer of 2009, and consultation will continue throughout the process. Letters to request consultation to develop a programmatic agreement with tribes, the State Historic Preservation Officer, and the Advisory Council on Historic Preservation were mailed out to the below-listed tribes on February 25, 2010.

Cabazon Band of Mission Indians
Augustine Band of Cahuilla Mission Indians
Agua Caliente Band of Cahuilla Indians Tribal Historic Preservation Officer
Morongo Band of Mission Indians
Chemehuevi Reservation
Colorado River Reservation
Fort Mojave Indian Tribe
Colorado River Indian Tribes
Cocopah Tribal Council
San Manuel Band of Mission Indians
Ft. Yuma Quechan Indian Tribe
Torres-Martinez Desert Cahuilla Indians
Twentynine Palms Band of Mission Indians

In a February 8, 2010 e-mail to the BLM's Palm Springs Field Office, Pati Pinon, Chairperson of the La Cuna de Aztlan Sacred Sites Protection Circle, expressed concern that the proposed BSPP would be constructed on a Kokopeli geoglyph and numerous other images and ancient trails that lead to other geoglyphs a few miles away. The geoglyphs and other resources have been investigated, and a report on them is currently under preparation.

Results of Inquiries Made to Native Americans

Neither AECOM EDAW nor the BLM cultural resources specialist identified additional cultural resources from their consultation with Native Americans, although the geoglyphs and trails about which Ms. Pinon expressed concern are being considered.

Cultural Resources Table 1 (below) provides a list and brief description of the ethnographic resources located within the BSPP APEs.

D.1.2 Field Inventory Investigations

To facilitate the environmental review of their projects, Applicants conduct surveys to identify previously unrecorded cultural resources in or near their proposed project areas. These surveys include a pedestrian archaeological survey and a built-environment windshield survey. The Applicant may undertake additional field research, including geoarchaeological studies and site testing, to respond to data requests.

BLM's Class I survey, mentioned above, is a records and literature review. Under BLM's protocol for inventory-level cultural resources investigations on lands for which a Right-of-Way grant has been requested, after the Class I survey, the Applicant generally undertakes field research, sequentially, at two increasing levels of intensity. A Class II survey, sometimes referred to as a "reconnaissance survey," is a statistically based sample survey designed to help characterize the probable density, diversity, and distribution of archaeological sites in a large area by interpreting the results of surveying (walking across and examining the ground surface) limited and discontinuous portions of the target area. A Class III survey is a continuous, intensive survey of an entire target area, aimed at locating and recording all archaeological properties that have surface indications, by walking close-interval parallel transects until the area has been thoroughly examined (BLM 2004, sec. 8110.21).

AECOM EDAW obtained BLM Fieldwork Authorizations on March 27, and August 5, 2009, for cultural resources field investigations in an approximately 7,850-acre ROW within which the proposed BSPP would be sited (EDAW 2009b, att.3, BLM Contacts).

AECOM EDAW reported no Class II cultural resources survey for the proposed BSPP, but reported the methods and results of a Class III pedestrian archaeological survey The survey was conducted in two phases. The first, between March 30 and June 26, 2009, was of the proposed plant site (plus 200 feet around the site perimeter). The second, between October 13 and 16, 2009, was of a newly defined 100-foot-wide corridor in which would be located the routes of the plant access road, the natural gas pipeline, and the transmission gen-tie line (EDAW 2010a, p. 93; EDAW 2009b, p. 2). The typical, sparse desert vegetation made ground visibility "extremely good" (EDAW 2010a, p. 109).

The survey methods entailed four-to eight-person survey teams walking at 20-meter intervals looking for archaeological remains. The survey team sought to relocate previously recorded sites and assess their current condition. For new resources, they defined four or more artifacts as a site and three or fewer as an isolate. They used an arbitrary distance of 30 meters (m) between artifacts and features to separate deposits into individual sites. They used handheld GPS units to plot the locations of features, sites, and isolated artifacts and flagged finds for the recording team that would follow them. The recording team recorded all sites and architectural resources over 45 years of age with the data required by Department of Parks and Recreation (DPR) series 523 forms. They photographed site overviews and diagnostic artifacts, drew site sketch maps, compiled artifact and feature descriptions, and made observations on the terrain and ecology. Once a site was recorded the recording team removed all flagging tape. AECOM EDAW undertook no subsurface testing and collected no artifacts (EDAW 2010a, pp. 93–95).

On May 8, 2009, AECOM EDAW also completed a built-environment field survey with an APE extending out 0.5 mile beyond the proposed BSPP plant. In October, 2009, AECOM EDAW conducted an additional built-environment survey with an APE extending out 0.5 mile beyond the newly defined linear facilities corridor (EDAW 2009d, p. v; EDAW 2009e, p. 21). These were primarily "windshield" surveys to field-check built-environment resources 45 years of age or older as identified from historic maps. Additionally, for the linear facilities corridor survey, AECOM EDAW met with Art Wilson, author of *Runways in the Sand: The History of Blythe Army Air Base in World War II* (Wilson 2008), who provided a guided tour and shared his extensive knowledge of that resource (EDAW 2009e, p. 21).

Results of Pedestrian Archaeological Survey

As a result of their pedestrian archaeological surveys within the project's archaeological APE, AECOM EDAW identified a total of 234 archaeological sites, including 7 previously known and relocated sites, and 1,210 isolates. Of these sites, 197 were historic-period, 34 were prehistoric, and 3 had both historic-period and prehistoric components (EDAW 2010a,Table 12; p. 280).

AECOM EDAW reduced the 234 archaeological sites they identified by 21 because 1 of these sites was found not to be an archaeological site and 20 other sites were located within the 200-foot "buffer zone" around the project's plant site and linear facilities corridor's footprints (EDAW 2010a,Table 12). So AECOM EDAW's total for the number of sites that would be impacted by the project was 213.

One site located in the buffer zone on the private in-holding was added back into AECOM EDAW's total for archaeological sites with the understanding that the BSPP Applicant is negotiating the purchase of the in-holding and so could eventually have the responsibility for that site. Other adjustments made to the inventory resulted in an adjusted total of 210 sites, of which 30 are prehistoric and 180 are of the historic period.

The four prehistoric site types AECOM EDAW reported as present on the BSPP were (EDAW 2010a, pp. 137–142):

1. Prehistoric Lithic Scatters (debris from the production of one or more flaked stone tools, possibly tools used to make flaked stone tools, and occasionally the flaked stone tools themselves);

2. Prehistoric Quarry Sites (a geological deposit of stone material suitable for the manufacture of flaked stone tools);

3. Prehistoric Sites with Features (features are remains of non-residential human modifications or additions to the natural landscape, such as hearths, arrangements of stones, cleared areas), all but one of which in the BSPP were "thermal cobble features"—probably the remains of roasting pits;

4. Prehistoric Trails (footpaths evidencing denuding of desert pavement, with possible shallow depression from compaction of soils); and

5. "Pot Drop" (isolated scatter of sherds from a single pot).

AECOM EDAW defined three broad categories of historic-period sites, Early Twentieth-Century Mining and Ranching Sites, World War II-era DTC/C-AMA Sites, and Other Historic-period Sites (EDAW 2010a, pp. 127, 144–156), under which they identified 10 site types.

The Early Twentieth-Century Mining and Ranching Sites consisted of:

1. Early twentieth-century habitation sites (residential structural remains and domestic non-biodegradable refuse);

2. Early twentieth-century sites with features (features are remains of non-residential human modifications or additions to the natural landscape, such as non-residential structural remains, mining claim markers, prospecting, refuse, and privy pits); and

3. Early twentieth-century refuse scatter sites (deposits of non-biodegradable refuse of all kinds).

The World War II-era DTC/C-AMA Sites consisted of:

1. World War II-era sites with features (features are remains of non-residential human modifications or additions to the natural landscape, such as fortified positions, cleared areas for tent pads, and hearths);

2. World War II-era refuse dump sites (distinguished from refuse scatter sites by the greater volume of material and multi-episodic deposition); and

3. World War II-era refuse scatter sites (recognized by the presence of military-issued rations containers or cans opened with the military-issued P-38 can-opener or a bayonet).

The Other Historic-period Sites consisted of:

1. Transportation routes (pre-1967 dirt roads traversing the proposed plant site);

2. Non-specific twentieth-century sites with features (these lacked materials that could be dated or associated with a specific activity);

3. Non-specific twentieth-century refuse dump sites; and

4. Non-specific twentieth-century refuse scatter sites.

Cultural Resources Table 1 (below) provides a list and brief description of the archaeological sites identified by AECOM EDAW as located within the BSPP APEs.

Results of Geoarchaeological Investigations

Between July 29 and August 5, 2009, AECOM EDAW's geoarchaeologist observed the drilling of 22 geotechnical borings on the BSPP site, located throughout the proposed plant site. The geoarchaeologist sorted and examined all the removed sediments for evidence of paleosols, archaeological deposits, or isolated finds. The sediments were also hand-sampled at 5-foot intervals as the borings progressed. The geoarchaeologist recorded the sediments and stratigraphy before the borings were backfilled (Galati & Blek 2010x, p. 3). The geotechnical investigations also included the excavation of test pits (no details provided), but the geoarchaeologist did not observe that activity

The distribution of the borings was sufficient to provide the geoarchaeologist with an adequate characterization of the subsurface stratigraphy of the BSPP plant site. The site is underlain by (from the oldest to the youngest): ancestral Colorado River sands, lake-deposited clays, alluvial fan sands and gravels, and moderately well-developed soils based on alluvial fan sands and gravels.

The geoarchaeologist reasoned that when the cool, wet Pleistocene gave way to the drier Holocene climate, alluvial fan growth was probably accelerated, so the lake-deposited clays that underlay the alluvial fan deposits could represent the Pleistocene. Therefore, evidence of human use of this area would be found no deeper than the contact between the upper part of the Pleistocene clay deposit and the lower part of the Holocene sand and gravel deposit. That contact generally occurs at about 10 feet, so the geoarchaeologist concluded that buried archaeological deposits, if any, would be limited to the upper 10 feet of the BSPP site (Galati & Blek 2010x, p. 17).

The geoarchaeologist observed no paleosols or buried archaeological deposits, but reported that a buried A horizon was recorded by the geotechnical staff in two of the test pits at a depth of 1 meter below the surface in the northeastern part of the plant site. This indicates that a stable surface existed for long enough for soil development to take place, so human occupation would also have been possible on such a surface (Galati & Blek 2010x, p. 17).

Based on the locations where the lake clay-alluvial fan contact and the buried A horizon were observed in the borings, the geoarchaeologist recommended archaeological monitoring, down to the depth of 10 feet, during ground-disturbing construction along the northern BSPP boundary, in a zone extending along the eastern two-thirds of the boundary and to the south about 0.5 mile. Noting that the potential for buried deposits is high near drainages, the geoarchaeologist also recommended archaeological monitoring during construction around the dry wash, particularly the north side that runs diagonally across the southwest part of the BSPP plant site (Galati & Blek 2010x, p. 17; fig. 5).

Results of Windshield Survey for Built-Environment Resources

AECOM EDAW 's architectural historian identified two built-environment resources, aged 45 years or older, that are located within 0.5-mile of the linear facilities corridor: a reservoir to the west that was constructed to serve the former Blythe Army Air Base (BAAB) of World War II vintage, and a radio communications facility, built in 1950, to the south of the corridor (EDAW 2009e, p. 22; fig. 3).

The BAAB reservoir is in the foothills of the McCoy Mountains and more than 0.5 mile west of the BSPP proposed linear facilities corridor. Water from on-base wells was pumped to the reservoir, then returned to the base by gravity flow. The reservoir is no longer in use, and associated nearby structures and a covering structure are no longer present. The reservoir is an open concrete bowl with a 557,000-gallon capacity (EDAW 2009e, p. 25). No information was provided on the location of the two pipelines that connected the reservoir to the BAAB.

The radio communications facility is nearly one-half mile south of the linear facilities corridor. The building is one-story, square, and constructed of concrete blocks. A tower in the shape of a truncated cone rises from the middle of the flat, circular roof, around which instruments are installed. An antenna tower is located nearby. The AECOM EDAW recorder of this building stated that it appeared that significant alterations had been made in the 1980s (EDAW 2009e, p. 26). No information was provided on its current status, but it may still be in use.

Table D-1 (below) provides a list and brief description of the built-environment resources identified by AECOM EDAW as located within the BSPP APEs.

TABLE D-1
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Prehistoric Archaeological Resources[c]			
CA-Riv-1136	"pot drop" 13 ceramic sherds	Prehistoric	Buffer (private in-holding)
CA-Riv-2846	Toolstone quarry tested cobbles, testing debris over extensive area on a remnant Pleistocene-era Colorado River terrace	Prehistoric	Plant site
CA-Riv-3419	Toolstone quarry tested cobbles, testing debris over extensive area on a remnant Pleistocene-era Colorado River terrace	Prehistoric	Plant site
SMB-P-160	Lithic scatter 11 chert flakes	Prehistoric	Plant site
SMB-M-214	Thermal cobble feature (possible roasting pit) 100 quartz cobbles (2 thermally altered), slightly embedded in ground surface 1 food can	Prehistoric and 20th century historic site	Plant site
SMB-P-228	Lithic scatter 5 quartz flakes, 1 quartzite hammerstone	Prehistoric	Plant site
SMB-P-238	Lithic scatter 30 quartz flakes, quartz flake core, 1 quartzite hammerstone	Prehistoric	Plant site
SMB-P-241	Lithic scatter and cairn 100 quartz flakes, 1 quartzite hammerstone	Prehistoric	Plant site
SMB-P-244	Lithic scatter 14 quartz flakes, 1 quartzite flake core, 2 quartzite hammerstones (site size not recorded; site plan scale incorrect)	Prehistoric	Plant site
SMB-P-249	Lithic scatter 8 quartzite flakes, 5 pieces of quartzite shatter, and 1 quartzite hammerstone	Prehistoric	Plant site
SMB-P-252	Lithic scatter, in 2 flaking stations about 18 meters apart station 1: 50 quartzite flakes, 2 quartzite hammerstones station 2: 50 quartzite flakes	Prehistoric	Plant site
SMB-P-270	Lithic scatter and cairn 60 quartzite, chert, jasper, and chalcedony flakes, 1 quartzite flake core, 1 cairn of approximately 30 cobbles (site plan indicates site just sampled, so was not completely recorded)	Prehistoric	Linear facilities corridor

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[a] Note that all "SMB" sites are newly identified.

[b] Identifications and descriptive terms are from the site forms prepared by AECOM EDAW and from EDAW 2010a, Table 12.

[c] Sites with both prehistoric and historic-period components are listed according to which remains are the most abundant.

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Prehistoric Archaeological Resources (cont.)			
SMB-P-272	Lithic scatter and recent cobble-collection debris (bucket, 2 tires) 119 flakes, 4 cores, 1 chopper, 1 hammerstone; chert, quartz, chalcedony represented (site plan indicates site just sampled, so was not completely recorded)	Prehistoric	Linear facilities corridor
SMB-P-275	Lithic scatter 6 flakes (4 quartzite, 2 chert), 2 tested quartzite cobbles (site size not provided; site plan indicates site just sampled, so was not completely recorded)	Prehistoric	Linear facilities corridor
SMB-P-410	Prehistoric trail north-south running trail segment, 200 meters long observed and recorded	Prehistoric	Plant Site
SMB-P-434	Thermal cobble features 3 concentrations of fire-affected cobbles; possible roasting pits; subsurface materials may be present no associated artifacts	Prehistoric	Plant site
SMB-P-436	Thermal cobble features 2 concentrations of fire-affected cobbles; possible roasting pits; subsurface materials may be present	Prehistoric	Plant site
SMB-P-437	Thermal cobble feature concentration of fire-affected cobbles; possible roasting pit; subsurface materials may be present	Prehistoric	Plant site
SMB-P-438	Thermal cobble feature 1 concentration of fire-affected cobbles; possible roasting pit; subsurface materials may be present	Prehistoric	Plant site
SMB-P-440	Thermal cobble feature 1 concentration of fire-affected cobbles; possible roasting pit; eroding out a wash bank; subsurface materials may be present	Prehistoric	Plant site
SMB-P-441	Thermal cobble features 3 concentrations of fire-affected cobbles; eroding out a wash bank; possible roasting pits; subsurface materials may be present	Prehistoric	Plant site
SMB-P-445	Thermal cobble feature, lithic scatter, 2 cleared areas 1 concentration of fire-affected cobbles; possible roasting pit; subsurface materials may be present 69 quartzite and chert flakes, 9 flake cores, 12 tested cobbles 2 circular cleared areas interpreted as possible sleeping circles (site form and plan indicates site just sampled, so artifacts not completely recorded)	Prehistoric	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Prehistoric Archaeological Resources (cont.)			
SMB-P-448	Thermal cobble feature 1 concentration of fire-affected cobbles; possible roasting pit; subsurface materials may be present	Prehistoric	Plant site
SMB-H-452	Cobble feature (no information recorded on whether rocks fire-affected) 1 concentration of cobbles; possible roasting pit; subsurface materials may be present 2 cans: military ration can, other food can	DTC/C-AMA and possibly prehistoric 1942-1944 (WWII)	Plant site
SMB-P-453	Lithic scatter 37 quartzite or chert flakes, 3 quartzite or chert flake cores, 10 quartzite or chert assayed cobbles, and 3 quartzite hammerstones	Prehistoric	Plant site
SMB-P-454	Thermal cobble feature, ceramic scatter, faunal remains ceramic sherds, tentatively identified as Colorado buffware 1 concentration of fire-affected cobbles; possible roasting pit; subsurface materials may be present bone fragments; not cut or burned; good conditions suggests recent age	Prehistoric	Plant site
SMB-M-511	Lithic scatter and historic-period refuse scatter 68 flakes, 7 flake cores, 1 tested cobbles; materials include chert, quartz, and quartzite 5 cans: military ration cans, other food cans	Prehistoric and DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-P-530	Lithic scatter 50 quartz flakes, 7 quartz flake cores	Prehistoric	Plant site
SMB-P-531	Lithic scatter 100 quartz flakes, shatter pieces, and flake cores	Prehistoric	Plant site
SMB-P-532	Lithic scatter 60 quartz flakes and 8 quartz flake cores	Prehistoric	Plant site
Historical Archaeological Resources			
CA-Riv-9011	Historic-period refuse scatter, 2 concentrations original 2008 recordation: concentration 1: 7 cans: rotary-opened cans, knife-opened cans glass jar with 1938-1977 date concentration 2: 7 cans: key-wind meat cans, sanitary cans 2009 AECOM EDAW revisit: 16 cans: P-38-opened food cans, key-wind meat cans, knife-cut beverage cans glass jar	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Substation

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-002	Historic-period refuse scatter 3 cans: military ration cans amber beer bottle	DTC/C-AMA 1942-1944 (WWII)	Substation
SMB-H-109	Historic-period refuse scatter 6 cans: Military ration can, other food cans, aluminum soft-top beer can	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII) and late 20th century	Plant site
SMB-H-110	Historic-period refuse scatter 4 military ration cans	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-113	Cairns (probably mining claims) and historic-period debris scatter aircraft parts	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-114	Historic-period refuse scatter 8 cans: military ration cans, other food cans	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-115	Historic-period refuse scatter 8 cans: military ration cans, key-wind meat can, church-key-opened beer can bullet casing, braided wire	DTC/C-AMA, 1942-1944 (WWII)	Plant site
SMB-H-116	Historic-period refuse scatter 19 cans: hole-in-cap milk cans, food cans, one embossed "SANITARY," a practice dating to the 1800s	Prospecting/ranching Early 20th century	Plant site
SMB-H-118	Historic-period refuse scatter 29 cans: military ration cans, milk cans, beer cans, juice can, sardine can, fuel can glass liquor bottle embossed "Federal Law Forbids Sale or Re-Use of This Bottle" military mess-kit spoon (embossed with, "U.S."), bullets, wire	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-119	Historic-period refuse scatter 5 cans: hole-in-cap milk cans, key-wind meat can	Prospecting/ranching Early 20th century	Plant site
SMB-H-120	Historic-period refuse scatter 4 cans: church-key-opened sardine cans, key-wind sanitary can	Prospecting/ranching Early 20th century	Plant site
SMB-H-121	Historic-period refuse scatter 15 cans: military ration cans	DTC/C-AMA 1942-1944 (WWII)	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-122	Historic-period refuse scatter 5 cans: military ration cans, other can military mess-kit spoon embossed with "U.S."	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-123	Historic-period refuse scatter 4 cans: military ration cans, church-key-opened beer can, other can, can lids glass bottle	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-124	Historic-period refuse scatter 11 cans: key-wind sardine cans, other food cans, can lid	Prospecting/ranching Early 20th century	Plant site
SMB-H-125	Historic-period refuse scatter 5 cans: military ration cans, key-wind meat can, other food can	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-126	Historic-period refuse scatter military ration cans, other food can glass jar	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-127	Historic-period refuse scatter 4 sanitary cans	Other historic site 20th century	Plant site
SMB-H-129	Historic-period refuse scatter military ration can, key-wind sardine can, hole-in-cap can, other food cans 3 glass bottles with 1938 and 1941 maker's marks piece of wooden lath	Prospecting/ranching and DTC/C-AMA Early-to-mid 20th century and 1942-1944 (WWII)	Plant site
SMB-H-130	Historic-period refuse scatter 2 cans: P-38-opened can, aluminum soft-top beer can glass jugs with 1948 and 1952 maker's marks	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII) and late 20th century	Plant site
SMB-H-131	Historic-period refuse scatter 5 cans: military ration can, P-38-opened can, other food cans	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-132	Historic-period refuse scatter 8 cans: military ration cans, military-issue soluble coffee can, other food cans, can lid	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-133	Historic-period refuse scatter and rock ring (historic hearth) 2 cans: military ration can, other can	DTC/C-AMA 1942-1944 (WWII)	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-134	Historic-period refuse scatter 3 cans: military ration cans, sardine can glass bottles	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-135	Historic-period refuse scatter 19 cans: military ration cans, other food cans, milk cans, beer cans, paint can glass bottle fragments metal band, smoke landmine	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-136	Historic-period refuse scatter 16 cans: military ration cans, meat cans, other food cans, can lids glass jar embossed with 1943 date brass munitions casing, sheet metal	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-137	Historic-period refuse scatter U.S. General Land Office survey marker dated 1917 9 cans: military ration cans, sardine can, beer can, wooden lath pieces	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-138	Historic-period refuse scatter 4 cans: military ration can, military-issue soluble coffee cans	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-139	Historic-period refuse scatter 8 cans: military ration can, key-wind-opened cans, other cans	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-140	Historic-period refuse scatter 20 cans: military ration cans, military-issue soluble coffee can, milk can, beer cans, aerosol can, other cans, can lids military mess-kit spoon embossed "U.S.," munitions casings, lath pieces	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-143	Historic-period refuse scatter and well head 3 cans: key-wind-opened meat can, hole-in-cap can, sanitary can milled lumber, galvanized sheet metal piece	Prospecting/ranching Early 20th century	Plant site
SMB-H-144	Historic-period refuse scatter 6 cans: military ration can, hole-in-cap can, other food cans, two can lids	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-145	Historic-period refuse scatter 4 cans: church-key-opened cans, hole-in-cap milk can, other food can, can lid glass jar, glass bottle with 1938 maker's mark	Prospecting/ranching Early-to-mid 20th century	Plant site
SMB-H-147	Historic-period refuse scatter 6 cans: military ration can, other food cans, milk can, baking powder can, aluminum soft-top beer can	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII) and late 20th century	Plant site
SMB-H-148	Historic-period refuse scatter 6 cans: military ration can, hole-in-cap milk can, other food cans, can lid	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-151	Historic-period refuse scatter 10 cans: military-issue soluble coffee can, rotary-opened food cans, can lid	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-152	Historic-period refuse scatter 13 cans: military ration can lid, key-wind meat cans, other food cans	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-153	Historic-period refuse scatter 4 cans: milk cans, tapered meat can, other food can, metal bracket with military-style coating	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-154	Historic-period refuse scatter (two concentrations 14 cans (east concentration): military ration cans, military-issue soluble coffee cans, P-38-opened can, other food cans saw-cut bone fragments (large mammal) boot sole flat glass fragment 23 cans (west concentration): solder-dot cans, other food cans	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-155	Historic-period refuse scatter 5 cans: military ration cans, can adapted as a pail, coffee can, paint can glass canning jar wooden lath pieces, plank, embossed sheet metal	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-156	Historic-period refuse scatter 38 cans: military ration cans, military soluble coffee can, milk cans, sardine can, other food cans, beer cans (some church-key-opened, some aluminum soft-top type), can lids	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII)	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-156 (cont.)	glass bottles with maker's marks (dates not researched/provided)		
SMB-H-157	Historic-period refuse scatter 7 cans: military ration can, army-issued garbage can lid embossed with 1942 date, milk cans, other food cans	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-158	Historic-period refuse scatter 4 cans: military ration can, other food cans	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-159	Historic-period refuse scatter 7 cans: military ration can, baking powder cans, milk can, key-wind-opened meat can, other food can	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-161	Historic-period refuse scatter 6 cans: hole-in-cap milk can, key-wind-opened meat can, other food cans, metal band	Prospecting/ranching Early 20th century	Plant site
SMB-H-162	Historic-period refuse scatter 5 cans: hole-in-cap milk can, other food cans (one P-38-opened) glass fragments with maker's marks (dates not researched/provided)	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-163	Fortified positions (4) 37 cans: military ration cans, other food cans (some church-key-opened and P-38-opened), milk can, beer cans, tobacco tin, can lids, fuel can, oil cans auto part, bailing wire coils	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-164	Historic-period refuse scatter 36 cans: military ration cans, other food cans, beer cans (some aluminum soft-top beer cans), milk can, baking powder can glass bottle fragments, one embossed "CLOROX" car hood spring, bottle cap, metal sign post, metal band, and wire (Under **Features**, a "deflated hearth" (thermal cobble feature?) is noted, but the site plan shows "F. 1" and "F. 2" with no further information provided) (no detailed can recordation; maker's marks dates not researched/provided)	Prospecting/ranching, DTC/C-AMA, and possibly prehistoric Early 20th century, 1942-1944 (WWII), and mid-20th century Prehistoric (?)	Plant site
SMB-H-165	Historic-period refuse scatter 35 cans: military ration cans, sardine can, key-wind-opened meat can, milk cans, church-key-opened beer cans, other food cans (some P-38-opened), can lids (no detailed can recordation)	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-166	Historic-period refuse scatter 38 cans: hole-in-cap milk cans, key-wind-opened meat can, other food cans (including one knife-cut-X-opened, dating to the early 20th century), can lid glass jar (no detailed can recordation, and glass container maker's marks not noted and/or not researched or dates not provided)	Prospecting/ranching Early 20th century	Plant site
SMB-H-167	Historic-period refuse scatter 36 cans: hole-in-cap milk can, key-wind-opened meat can, knife-cut-X-opened can, other food cans (some P-38-opened), can lids, fuel can glass jars metal bucket military ration can, smoke landmine (no detailed can recordation, and glass container maker's marks not noted and/or not researched or dates not provided)	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-168	Historic-period refuse scatter 62 cans: milk cans, sardine cans, key-wind-opened meat cans, spice can, other food cans (some rotary-opened), fuel cans historic ceramic fragment glass bottle fragments, glass stemware miscellaneous metal military ration cans, other food cans (some P-38-opened) (glass container maker's marks not noted and/or not researched or dates not provided)	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-169	Historic-period refuse scatter 5 cans: hole-in-cap milk can, military ration can, other food cans (some P-38-opened) (glass bottles shown on site plan but not described under A5)	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-170	Historic-period rock ring hearth with charcoal and a refuse scatter 1 sanitary can (post-dates 1904)	Other historic site 20th century	Plant site
SMB-H-171	Historic-period refuse dump 166 cans: military ration cans, milk cans, sardine cans, military-issue soluble coffee cans, key-wind-opened meat can, tobacco tin, other food cans, can lids, beer cans (some church-key-opened, some aluminum soft-top type), oil and fuel cans	DTC/C-AMA 1942-1944 (WWII)	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-171 (cont.)	glass bottle fragments, glass jar threaded metal jar lid, mess-kit spoon embossed "U.S." (no detailed can recordation and glass container maker's marks not noted and/or not researched or dates not provided)		
SMB-H-173	Historic-period refuse scatter 13 cans: hole-in-cap milk cans, key-wind-opened meat can, other food cans	Prospecting/ranching Early 20th century	Plant site
SMB-H-175	Historic-period refuse scatter 13 cans: military ration cans, other food cans, can lids, beer cans glass fragments from bottles and jars (hearth was mentioned on original form and in Table DR-CR-131, but not on new site form, or on revised Class III report p. 163; of concern is whether a hearth, if present, is prehistoric or historic) (no detailed can recordation and glass container maker's marks not noted and/or not researched or dates not provided)	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-176	Historic-period refuse scatter, hearth (charcoal, no rocks), and wood pile (pieces of native wood) 2 cans wire, metal bar (no detailed can recordation)	Prospecting/ranching Early 20th century	Plant site
SMB-H-177	Historic-period refuse scatter 12 cans: sardine can; milk cans, other food cans, beer cans (some church-key-opened beer, some aluminum soft-top type) (no detailed can recordation)	Prospecting/ranching and possibly Desert Strike Early 20th century and late 20th century	Plant site
SMB-H-178	Historic-period refuse dump and rock alignment (interpreted as an aerial marker pointing at a survey monument) 226 cans: food cans, beverage cans, oil cans, fuel cans glass bottle with probable 1970s embossing pail, propane tank, jack, hack saw, vehicle tire (no detailed can recordation)	Other historic site 20th century	Plant site
SMB-H-179	Historic-period refuse scatter 4 cans: hole-in-cap cans, other food cans	Prospecting/ranching Early 20th century	Plant site
SMB-H-180	Historic-period refuse scatter 5 cans: military ration can, P-38-opened food cans, other food can, aluminum soft-top beer can	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII) and late 20th century	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-181	Historic-period refuse scatter 30 cans: hole-in-top milk can, other cans, aluminum soft-top beer can glass jar with 1920-1964 maker's mark (no detailed can recordation)	Other historic site and possibly Desert Strike 20th century	Plant site
SMB-H-182	Historic-period refuse scatter 38 cans: food cans (some P-38-opened), key-wind-opened meat can, tapered meat can, spice can, can lid ceramic fragments flat glass fragments, glass jar with 1920-1964 maker's mark, glass bottle with 1929-1954 maker's mark tape dispenser (no detailed can recordation and no ceramic identification or dating)	Prospecting/ranching and DTC/C-AMA Mid-20th century 1942-1944 (WWII)	Plant site
SMB-H-183	Historic-period refuse scatter 4 cans: food cans, church-key-opened beer cans	Other historic site Mid-20th century	Plant site
SMB-H-184	Historic-period refuse scatter 18 cans: hole-in-top milk cans, military ration can, other food cans (some P-38-opened), can lids, aluminum soft-top beer cans	Other historic site and possibly Desert Strike 20th century	Plant site
SMB-H-185	Historic-period refuse scatter 4 cans: food cans (some P-38-opened), fuel can	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-186	Historic-period refuse scatter 8 cans: bayonet-opened food cans, hole-in-cap milk can, coffee can	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-189	Historic-period refuse scatter 12 cans: military ration can, military-issue soluble coffee can, beer cans (church-key-opened and aluminum soft-top type), knife-cut-X-opened cans, oil can glass bottles with post-1932, 1942, 1970s maker's marks	Other historic site and possibly Desert Strike 20th century	Plant site
SMB-H-190	Historic-period refuse scatter 6 cans: military ration can, other food cans, key-wind-opened meat can, church-key-opened beer can, aluminum soft-top beer can	Other historic site Early-to-mid 20th century	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-191	Historic-period refuse scatter 4 bayonet-opened cans glass bottle with 1858-1895 maker's mark, glass jar with1932-1942 maker's mark	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-192	Historic-period refuse scatter 4 cans: P-38-opened cans, other food cans	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-193	Historic-period refuse scatter 4 cans: bayonet-opened cans, other food cans	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-194	Historic-period refuse scatter 5 cans: hole-in-top milk can, church-key-opened cans, other food cans glass jar with 1920-1964 maker's mark	Prospecting/ranching Mid-20th century	Plant site
SMB-H-195	Historic-period refuse scatter 4 cans: military ration can, other food cans, aluminum soft-top beer can glass jar (glass container maker's marks not noted and/or not researched or dates not provided)	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII) and late 20th century	Plant site
SMB-H-197	Historic-period refuse scatter 3 cans: hole-in-cap milk can, church-key-opened beer can, fuel can glass bottle fragments (several pint liquor bottles represented) with 1930s-1940s maker's marks	Prospecting/ranching Early-to-mid 20th century	Plant site
SMB-H-198	Historic-period refuse scatter 7 cans: milk can, sanitary cans, church-key-opened beer cans, aluminum soft-top beer can, fuel can piece of steel pipe, steel cable pieces	Other historic site Mid-20th century	Plant site
SMB-H-199	Historic-period refuse scatter 22 cans: milk can, oval sardine can, other food cans, church-key-opened beer can, aluminum soft-top beer can	Other historic site and possibly Desert Strike 20th century	Plant site
SMB-H-200	Historic-period refuse scatter 3 cans: rotary-opened tuna can, other food cans (one rotary-opened) munitions casing, wire	DTC/C-AMA 1942-1944 (WWII)	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-202	Historic-period refuse scatter 12 cans: hole-in-top milk can, other food can, church-key-opened beer cans; beer can marker "COORS" wooden post, braided wire	Prospecting/ranching Early-to-mid 20th century	Plant site
SMB-H-203	Historic-period cleared areas, possible aerial marker 16 approximately 7-foot-x-2–3-foot rectangles cleared of the top layer of desert pavement and laid out in a line, with their long sides parallel	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-204	Historic-period refuse scatter 4 cans: key-wind-opened meat can, other food cans, oil can	Prospecting/ranching Early 20th century	Plant site
SMB-H-205	Fortified positions (site plan indicates 13, but that may be schematic rather than actual) 31 cans: military ration cans, 24 oil cans, food cans, beverage can glass fragments with post-1916 and 1940s maker's marks wire	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-206	Historic-period refuse scatter 37 cans: sardine can, military-issue soluble coffee can, beer cans (one church-key-opened), tobacco cans, can lids glass bottle fragments with 1924-1968 and post-1945 maker's marks historic ceramic sherd boot sole wash basin, stove parts, automobile parts (no ceramic identification or dating)	Other historic site Mid-20th century	Plant site
SMB-H-207	Fortified positions, 22 of them, associated historic-period refuse scatter 6 cans: military-issue soluble coffee can, food cans, can embossed "GRENADE," can lids grenade spoons, shell casing, metal strapping	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-208	Historic-period refuse scatter 9 cans: military ration can, key-wind-opened meat can, other food cans, aluminum soft-top beer can glass ink well-shaped bottle with metal threaded cap	Prospecting/ranching and DTC/C-AMA and possibly Desert Strike 20th century and 1942-1944 (WWII)	Plant site
SMB-H-209	Historic-period refuse and debris scatter 5 cans: food cans, church-key-opened beer can, can lid cement block with rebar, wooden lath pieces	Other historic site 20th century	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-210	Fortified positions, 8 of them, and 2 cairns 7 cans: military ration cans, military-issue soluble coffee cans, can lids munitions clips, milled lumber, metal strapping	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-212	Historic-period refuse scatter 6 cans: military ration cans, military-issue soluble coffee cans, can lids	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-213	Historic-period refuse scatter 1 food can glass jar with post-1925 maker's mark metal pipe fragment, metal spring, metal rod	Other historic site Early 20th century	Plant site
SMB-H-215	Historic-period refuse scatter 26 cans: military ration cans, oil cans, other food cans, beer can, can lids grenade part (no detailed can recordation)	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-216	Historic-period refuse scatter 49 cans: military-issue soluble coffee can, hole-in-top milk can, other food cans (some P-38-opened), oil cans, can lids glass bottle fragments with 1940s and 1939-1957 maker's marks metal band, wire, electrical conduit	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-218	Historic-period refuse scatter and rock ring hearth containing charcoal 4 cans: "vent-hole" milk can, other food can, oil cans flat glass bone button 1940s delivery van nails, bolt, washers, wire, milled lumber plastic (no details)	Prospecting/ranching Early 20th century	Plant site
SMB-H-219	Historic-period refuse scatter 4 cans: military ration cans and lids	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-220	Historic-period refuse scatter 8 cans: military ration cans, military-issue soluble coffee can, can lids glass bottle with 1920-1963 maker's mark: "JERGENS LOTION"	DTC/C-AMA 1942-1944 (WWII)	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-221	Historic-period refuse scatter 3 cans: other food cans glass bottle fragments 1/8-inch metal rods (no detailed can recordation and glass container maker's marks not noted and/or not researched or dates not provided)	Other historic site 20th century	Plant site
SMB-H-222	Historic-period rock alignments forming letters and figures, rock hearth containing charcoal and pieces of wood, tank tracks 1 military ration can lid	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-223	Fortified positions, 8 of them 4 cans: military ration can, other food cans	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-224	Historic-period refuse dump 110 cans: military ration cans, lantern globe (Dietz, post-1918), Clorox bottle glass (1929-1950), other bottle glass historic ceramic fragments metal teapot, metal tray, metal plate, metal screen, wire, miscellaneous metal bands and sheets (site plan indicates site just sampled, so was not completely recorded) (no detailed can recordation; glass container maker's marks not noted and/or not researched or dates not provided; ceramics not identified/dated)	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-227	Historic-period refuse scatter 9 cans: food cans (some rotary-opened), can lids (no detailed can recordation)	Other historic site 20th century	Plant site
SMB-H-229	Historic-period refuse scatter 6 cans: military ration can, paint can, other food cans, pull-top beverage cans (no detailed can recordation)	Other historic site 20th century	Plant site
SMB-H-230	Historic-period refuse scatter 4 cans: military ration can, other food cans, key-wind-opened meat can, can lid (no detailed can recordation)	DTC/C-AMA 1942-1944 (WWII)	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-231	Historic-period refuse scatter 4 cans: key-wind-opened sardine can, other food cans (one rotary-opened), baking powder can (no detailed can recordation)	Prospecting/ranching Early 20th century	Plant site
SMB-H-232	Historic-period refuse scatter 8 cans: military ration can, other food cans, can lids glass bottle with post-1938 maker's mark (no detailed can recordation)	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-233	Historic-period refuse scatter 11 cans: military ration cans, other food cans	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-234	Historic-period refuse scatter and cairn 19 cans: military ration cans, other food cans, beer cans (most aluminum soft-top type), can lid	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII) and late 20th century	Plant site
SMB-H-235	Historic-period refuse scatter 8 cans: military ration cans, milk can, meat can, other food cans wire, sheet metal, munitions casing (can recordation incomplete—no filling method data—and illegible)	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-236	Historic-period refuse scatter 12 cans: military ration cans, milk can, other food can (can recordation incomplete—no filling method data—and illegible)	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-243	Historic-period refuse scatter and hearth containing charcoal and can 2 cans: military ration cans and can lid bottle crown cap, braided wire (site plan scale incorrect)	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-245	Historic-period refuse scatter, rock ring hearth, and 2 rock cluster features 15 cans: military ration cans, military-issue soluble coffee cans, milk cans, other food cans, can lids (no detailed can recordation)	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-246	Historic-period refuse scatter 10 cans: key-wind-opened meat can, other food cans, fuel cans, beer can glass jar with 1942 maker's mark	DTC/C-AMA 1942-1944 (WWII)	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-247	Historic-period cleared areas (3 probable tent pads) 1 P-38-opened can (site form site plan shows a “possible mining claim” and associated piece of milled lumber northeast of the tent pads, but form provides no description or discussion and EDAW 2010a, Table 12 doesn’t mention it or include it in the use/date for the site)	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-248	Historic-period refuse scatter 6 cans: milk can, church-key-opened beer can, P-38-opened can, other food cans (no detailed can recordation)	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-250	Historic-period cleared area, circle with 2 ear-like projections no artifacts	Other historic site 20th century	Plant site
SMB-H-251	Historic-period cleared areas, 1 oval, 1 circle no artifacts	Other historic site 20th century	Plant site
SMB-H-254	Historic-period refuse scatter 10 cans: military ration cans, knife-cut-X-opened cans, can lids wooden lath (no detailed can recordation)	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Linear facilities corridor
SMB-H-255	Historic-period refuse scatter 18 cans: sardine can, other food cans, beer cans (some church-key-opened, 1 aluminum soft-top type), can lids (no detailed can recordation)	Prospecting/ranching Early 20th century and late 20th century	Linear facilities corridor
SMB-H-256	Historic-period refuse scatter ? cans: military-issue soluble coffee cans glass medicine bottle milled lumber (no can count or detailed can recordation and glass container maker’s marks not noted and/or not researched or dates not provided)	DTC/C-AMA 1942-1944 (WWII)	Linear facilities corridor
SMB-H-258	Historic-period refuse scatter 3 cans: military ration can, church-key-opened beer can, other can glass bottle (no detailed can recordation and glass container maker’s marks not noted and/or not researched or dates not provided)	DTC/C-AMA 1942-1944 (WWII)	Linear facilities corridor

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-261	Historic-period refuse scatter 42 cans: military ration cans, key-wind-opened meat can, pocket tobacco tin with hinged lid, milled lumber, glass bottles with post-1938 maker's mark (no detailed can recordation)	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Linear facilities corridor
SMB-H-262	Historic-period refuse scatter and 2 historic-period rock and cinder block hearths 8 cans: milk can, other food cans, can lid glass bottle cinder blocks, milled lumber metal pipe, stove parts, refrigerator, automobile parts, bucket, wire (no detailed can recordation and glass container maker's marks not noted and/or not researched or dates not provided)	Prospecting/ranching Early 20th century	Linear facilities corridor
SMB-H-263	Historic-period refuse scatter 5 cans: military ration can, hole-in-cap milk cans, key-wind-opened sardine can, can lid (two railroad ties and "cement slab" shown on site plan but not discussed in description) (no detailed can recordation and glass container maker's marks not noted and/or not researched or dates not provided)	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Linear facilities corridor
SMB-H-265	Historic-period refuse scatter 75 cans: military ration cans, other food cans glass fragments with 1941 maker's mark	DTC/C-AMA 1942-1944 (WWII)	Linear facilities corridor
SMB-H-266	Historic-period refuse scatter 5 cans: military ration cans, hole-in-top milk can, can lids	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Linear facilities corridor
SMB-H-267	Historic-period refuse scatter 14 cans: military ration cans, coffee can (rotary-opened), beer cans (church-key-opened, and aluminum soft-top type), oil can, can lid oil filter	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII) and late 20th century	Linear facilities corridor
SMB-H-268	Historic-period refuse scatter 7 cans: hole-in-cap milk can, military-issue soluble coffee can, church-key-opened beer cans, other food can	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Linear facilities corridor

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-269	Historic-period refuse dump 360 cans: military ration cans, food and beverage cans, oil cans (very little material post-dating 1950) glass fragments with post-1912, 1920-1964, and post-1938 maker's marks metal pail, milled lumber	Other historic site and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Linear facilities corridor
SMB-H-271	Historic-period refuse scatter 60 (approximately) cans: military ration cans, church-key-opened beer cans, rotary-opened cans, rotary-opened food cans glass bottle fragments (soft drink, cosmetic, condiment, liquor) historic ceramics bricks, miscellaneous metal (site plan indicates site just sampled, so was not completely recorded) (no detailed can recordation and glass container maker's marks not noted and/or not researched or dates not provided and no ceramic identification or dating)	Other historic site DTC/C-AMA?? 20th century 1942-1944 (WWII)??	Linear facilities corridor
SMB-H-274	Historic-period refuse scatter 27 cans: military ration can, other food cans (mostly rotary-opened), powdered chocolate milk can, aluminum soft-top beer cans, paint can glass bottles (some baby food jars with lids) car parts, a car gas tank, wire hangers, fork, church-key opener embossed "COORS," aluminum foil, AA battery	Other historic site and possibly Desert Strike Mid-to-late 20th century	Linear facilities corridor
SMB-H-276	Historic-period refuse scatter 20 cans: military ration cans, key-wind meat can, hole-in-top milk can, other food cans (some P-38-opened), aluminum soft-top beer can, oil can, can lid glass jar (glass container maker's marks not noted and/or not researched or dates not provided)	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Linear facilities corridor
SMB-H-279	Historic-period refuse scatter 13 cans: military ration can, oval sardine cans, other food cans (some P-38-opened), glass jar with post-1940 maker's mark	DTC/C-AMA 1942-1944 (WWII)	Linear facilities corridor
SMB-H-282	Historic-period refuse scatter 11 cans: military ration cans, oval sardine can, other food cans (no detailed can recordation)	DTC/C-AMA 1942-1944 (WWII)	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-283	Historic-period refuse scatter 12 cans: milk cans, other food cans, church-key-opened beer can, fuel can glass bottle with 1935 or 1945 maker's mark	Prospecting/ranching Early 20th century	Plant site
SMB-H-284	Historic-period refuse scatter 11 cans: food cans, fuel can, baking powder can	Prospecting/ranching Early 20th century	Plant site
SMB-H-285	Fortified position of stacked rocks no artifacts	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-286	Fortified position 1 can (no details due to deterioration)	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-287	Historic-period refuse scatter 82 car parts 21 glass fragments suggestion that these associated with ranch site 404	Other historic site 20th century	Plant site
SMB-H-288	Historic-period refuse scatter 2 cans: milk can, other food can car parts, alarm clock parts, gasket suggestion that these associated with ranch site 404	Prospecting/ranching Early 20th century	Plant site
SMB-H-290	Historic-period refuse scatter 10 cans: hole-in-cap milk cans, church-key-opened cans, other food cans (some P-38-opened)	Prospecting/ranching, DTC/C-AMA, and possibly Desert Strike Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-401	Historic-period refuse scatter 4 cans: food cans (opened with lever-type, or "jab and lift," opener, 1855-present), can lid, tobacco can with hinged lid	Prospecting/ranching Early 20th century	Plant site
SMB-H-402	Historic-period refuse scatter 4 cans: hole-in-cap milk cans, other food can cans partially embedded in ground, suggesting possible additional remains subsurface	Prospecting/ranching Early 20th century	Plant site
SMB-H-403	Historic-period oil can dump 67 motor oil cans	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-404	Historic-period ranch 3 stone and concrete structures, watering trough cans (no count or description provided, except that aluminum soft-top beer cans were noted) glass and ceramic fragments vehicle parts	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-404 (cont.)	sheet metal, pipes, chicken wire cinder blocks, milled lumber, fencing components military ration cans, smoke landmines, munitions casings and clips		
SMB-H-406	Historic-period refuse scatter 6 cans: sanitary cans, key-wind meat cans, tobacco can with hinged lid wood pile, cluster of quartz rocks	Prospecting/ranching Early 20th century	Plant site
SMB-M-407	Historic-period refuse scatter 7 cans: military ration can, milk can, other food cans, church-key-opened beer can, can re-used as pail milled lumber one lithic flake isolate	Prospecting/ranching Early 20th century	Plant site
SMB-H-408	Historic-period refuse scatter and possible historic-period rock hearth (rocks thermally altered, no charcoal present) 4 cans: sanitary food cans (knife-cut-circle-opened or rotary-opened) saw-cut faunal bone fragment	Prospecting/ranching Early 20th century	Plant site
SMB-H-409	Historic-period refuse scatter 3 cans: food cans, tobacco can with hinged lid glass soda bottle embossed with "1938" date (no detailed can recordation)	Prospecting/ranching Early 20th century	Plant site
SMB-H-411	Historic-period geoglyph, long narrow oval (possible aerial marker) no associated artifacts	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-413	Historic-period refuse scatter 3 cans: hole-in-top milk cans, coffee can glass jars and glass jar fragments (condiments)	Prospecting/ranching Early 20th century	Plant site
SMB-H-414	Historic-period refuse scatter 5 cans: key-wind meat can, "matchstick filler"-type milk can, other food cans, can lids wire bundle, ironwood firewood pile	Prospecting/ranching Early 20th century	Plant site
SMB-H-415	Historic-period refuse scatter 26 cans: P-38-opened cans, hole-in-cap milk cans, military-issued soluble coffee can, baking powder can, pocket tobacco tin with hinged lid solarized bottle glass fragments	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-416	Historic-period refuse scatter 5 cans: military ration cans, other food can, milk can, oil can wooden ramp	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-417	Historic-period refuse scatter 6 cans: food can, "matchstick filler"-type milk can, oil cans	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-M-418	Historic-period refuse scatter and rock hearth (rocks thermally affected; 1 rock an assayed cobble) 7 cans: food cans, hinged-lid tobacco cans, milk can, lard pail glass catsup bottle with post-1888 maker's mark and metal threaded cap (this site should probably be tested as a possible thermal cobble feature)	Prospecting/ranching Early 20th century	Plant site
SMB-H-419	Historic-period refuse scatter in 2 loci locus 1 6 cans: 1 food can, 1 fuel can window glass fragments wire, munitions clips, horseshoe nails, miscellaneous hardware, wooden ramps locus 2 5 cans: food cans, hinged-lid can (no detailed can recordation)	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-420	Historic-period refuse scatter 9 cans: oval sardine cans, milk cans, other food cans milled lumber piece (no detailed can recordation)	Prospecting/ranching Early 20th century	Plant site
SMB-H-423	Historic-period refuse and airplane crash debris scatter 28 cans: military ration cans, military soluble coffee can, milk cans, other food cans (P-38-opened, knife-cut-opened, punched-hole opened, bayonet-opened), fuel can, aluminum soft-top beer cans 300 airplane fragments	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII) and late 20th century	Plant site
SMB-H-424	Historic-period refuse scatter 37 cans: military ration cans, other food cans, military-issue soluble coffee can, milk cans, sardine can, aluminum soft-top beer can, fuel can glass jar wooden lath piece (no detailed can recordation)	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII) and late 20th century	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-426	Historic-period refuse scatter 13 cans: knife-cut-opened sanitary cans (11 probably contained liquid, such as fruit juice) modern glass bottle (Anheiser Busch) (partially or nearly entirely buried "in desert pavement"—suggests aggrading environment)	Prospecting/ranching Early 20th century	Plant site
SMB-H-427	Historic-period refuse dump 93 cans recorded (all?): military ration cans, cocoa powder can, other food cans (almost all P-38-opened), spice cans, beer or beverage cans, oil cans glass condiment jar, glass fragments with circa 1939 maker's mark munitions casings (.22 caliber)	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-432	Historic-period structure foundation concrete slab foundation of a cinder-block structure (only stubs of walls left) 1 church-key-opened beer can	Other historic site Mid-20th century	Plant site
SMB-H-439	Historic-period refuse scatter 7 cans: military ration cans, meat can, milk can, other food cans, can lid (no detailed can recordation)	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-442	Historic-period refuse scatter 25 cans: military ration can, other food cans (most P-38-opened), spice can, tobacco can with hinged lid, can lids glass bottle fragments, flat glass fragments bucket, crown bottle caps, wire, nail, bucket handles, wire (no detailed can recordation)	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-444	Historic-period refuse scatter 9 cans: milk can, food cans, aluminum soft-top beer cans, fuel can (no detailed can recordation)	Other historic site and possibly Desert Strike Mid-to-late 20th century	Plant site
SMB-H-447	Historic-period refuse scatter 10 cans: meat cans, hole-in-cap food cans, Coors beer can (no detailed can recordation)	Other historic site 20th century	Plant site
SMB-H-450	Historic-period refuse scatter 7 cans: hole-in-cap food cans, military ration cans, other food cans (most P-38-opened) glass jar with Ball maker's mark (not dateable) (no detailed can recordation)	DTC/C-AMA 1942-1944 (WWII)	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-460	Historic-period refuse scatter 8 cans: military ration cans, sardine can, other food can, baking soda can, fuel cans braided wire	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-505	Historic-period refuse scatter 27 cans: military ration can, key-wind meat can, other food cans, milk cans, coffee can, seasoning can, can lid, church-key-opened beer cans, tobacco can with hinged lid 1 glass jar 4 glass bottles 1 glass cup ceramic fragment (no detailed can recordation; glass container maker's marks not noted and/or not researched or dates not provided; and no ceramic identification or dating)	Prospecting/ranching Early 20th century	Plant site
SMB-H-507	Historic-period refuse scatter 5 cans: hole-in-cap can, military ration can, aluminum soft-top beer can (no detailed can recordation)	Other historic site and possibly Desert Strike 20th century	Plant site
SMB-H-508	Historic-period refuse scatter 5 cans: aluminum soft-top beer cans, food can	Other historic site and possibly Desert Strike 20th century	Plant site
SMB-H-509	Historic-period refuse scatter 3 cans: military ration can, other food can, milk can glass jar fragment with post-1940 maker's mark	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-513	Historic-period refuse scatter 6 cans: hole-in-cap milk can, key-wind meat cans, other food can, aluminum-top pull-tab beer can (no detailed can recordation)	Prospecting/ranching and possibly Desert Strike Early and late 20th century	Plant site
SMB-H-514	Historic-period wood-frame structures (2), cinder block hearth, arranged cobble feature 1 unidentified wood-frame structure represented by 3 upright posts and baling wire 1 wood-frame outhouse represented by an upright post and a wooden chair with a hole cut out of the plywood seat no details on shape or mode of construction of the cinder block hearth 3 circular piles of cobbles aligned N-S sanitary cans* milled lumber, nails, wire	Prospecting/ranching Early 20th century	Plant site

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-514 (cont.)	(no photographs or drawings of structures or features provided) (no detailed can recordation) * (EDAW 2010a, Table 12 indicates cans are present, but site form makes no mention of them)		
SMB-H-515	Historic-period refuse scatter 7 cans: military ration cans, other food cans, military-issue soluble coffee can lid glass jug fragment	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-516	Historic-period refuse scatter 18 cans: military ration cans, fish cans, other food cans, hole-in-cap milk can large can modified into a sieve, with added wire handle glass medicine bottle fragments with 1930-45 maker's mark (no detailed can recordation)	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-517	Historic-period refuse scatter 6 cans: military-issue soluble coffee cans, hole-in-cap milk can, other food can glass fragments (no detailed can recordation and glass container maker's marks not noted and/or not researched or dates not provided)	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Plant site
SMB-H-522	Historic-period refuse scatter 43 cans: military ration cans, hole-in-cap milk cans, church-key-opened beer cans, aluminum soft-top beer can 33 glass fragments 30 historic-period ceramic fragments metal tray, sheet metal, milled lumber (no detailed can recordation; glass container maker's marks not noted and/or not researched or dates not provided; and no ceramic identification or dating)	Prospecting/ranching and DTC/C-AMA 20th century and 1942-1944 (WWII)	Linear facilities corridor
SMB-H-525	Historic-period refuse scatter 638 cans: military ration cans, other food cans (some P-38-opened), can lids, church-key-opened and aluminum-top pull-tab beer cans, hinged-lid pocket tobacco can bottle caps, cable, scrap metal, lantern, buckets, metal conduit, wash basin, bed frame, car seat, wire, bricks, metal lock, license plate, milled lumber (no detailed can recordation)	Other historic site and possibly Desert Strike 20th century	Linear facilities corridor

TABLE D-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE PROPOSED PROJECT

Resource Type and Identifying Number[a]	Resource Description[b] (and Data Problems or Omissions)	Cultural Components and Dates	Location
Historical Archaeological Resources (cont.)			
SMB-H-527	Historic-period refuse scatter 10 cans: military ration cans, key-wind meat cans, other food cans, hole-in-cap milk can, church-key-opened beer can, aluminum soft-top beer cans, fuel can (no detailed can recordation)	Other historic site (possibly Desert Strike(?)) Mid-to-late 20th century	Plant site
SMB-H-528	Historic-period refuse scatter 15 cans: military ration cans, key-wind meat cans, other food cans, can lid, hole-in-cap milk can, fuel can (no detailed can recordation)	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-529	Historic-period refuse scatter 33 cans: military ration cans, other food cans (some p-38-opened), milk can, beer cans milled lumber	DTC/C-AMA 1942-1944 (WWII)	Plant site
SMB-H-600	Historic-period road, N-S-running dirt two-track; site forms says, "associated with the gypsum mines in Midland"	Early 20th century roads Early 20th century	Plant site
SMB-H-601	Historic-period road, N-S-running along a section line between Blythe Airport and a road south of McCoy Wash scattered refuse deposits occur along the road, many dating to the early 20th century and thought to represent sheep ranching in this area	Early 20th century roads Early 20th century	Plant site
SMB-H-701	Historic-period refuse scatter 5 cans: military ration cans, other food can (knife-cut opened) 16 amber beer bottles with Owens Illinois maker's mark (no site plan recorded/provided) (glass container maker's marks not noted and/or not researched or dates not provided)	DTC/C-AMA 1942-1944 (WWII)	Linear facilities corridor
Ethnographic Resources			
Kokopeli geoglyph and other images	geoglyphs	Prehistoric, ethnographic or historic	Linear facilities corridor
Built-Environment Resources			
Blythe Army Air Base reservoir	water storage facility	DTC/C-AMA 1942-1944 (WWII)	linear facilities corridor
Radio communications facility	building and equipment	Other historic site Mid-to-late 20th century	linear facilities corridor

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PROGRAMMATIC AGREEMENT
AMONG THE
BUREAU OF LAND MANAGEMENT-CALIFORNIA,
THE UNITED STATES ARMY CORPS OF ENGINEERS,
THE CALIFORNIA ENERGY COMMISSION,
PALO VERDE SOLAR 1 LLC, AND
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE BLYTHE SOLAR POWER PROJECT- RIVERSIDE COUNTY, CALIFORNIA

Revised Draft 8/6/2010

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INTRODUCTION

The intent of this Programmatic Agreement (Agreement) is to provide processes whereby the Bureau of Land Management (BLM), and the California Energy Commission (Energy Commission), in consultation with the California State Historic Preservation Officer, Advisory Council on Historic Preservation (ACHP), Indian Tribes and other consulting parties, shall determine the steps the agencies shall follow to take into account effects on historic properties as required by Section 106 of the National Historic Preservation Act and satisfy the requirements of the California Environmental Quality Act.

The Energy Commission and the BLM, in consultation with the consulting parties to this Agreement, will consider and incorporate within the Section 106 consultation process the performance standards (desired future condition), the range of mitigation measures and commitment to mitigate, and monitoring requirements of the Energy Commission's Staff Assessment and Draft Environmental Impact Statement, and Draft California Desert Conservation Area Plan Amendment, Solar Millennium Blythe Project, Application for Certification (09-AFC-6) Riverside County (2010) as adopted by the Energy Commission and the BLM in any decision to permit the Blythe Solar Power Project. The BLM and the Energy Commission will endeavor to make the historic properties treatment and management provisions of this Agreement as consistent as possible with the objectives and terms of the Presiding Member Proposed Decision/Final Environmental Impact Statement within the context of the consultation process required by Section 106 of the NHPA.

Government agencies, consulting parties, and the public identified in the scoping and public notification process for the Staff Assessment/Environmental Impact Statement will be advised in the Supplemental Staff Assessment and Final Environmental Impact Statement (FEIS) that historic properties associated with the undertaking would be treated consistent with the mitigation measures or performance standards identified in the Staff Assessment and adopted by the Energy Commission, and consistent with the stipulations of this Agreement. A proposed final draft of this Agreement will be circulated for public comment as an attachment to the EIS. The Signatories have consulted with the Invited Signatories, Concurring Parties, and Tribes on this Agreement, and have taken into consideration the views and comments received regarding the draft Agreement in preparing this final Agreement.

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PROGRAMMATIC AGREEMENT
AMONG THE
BUREAU OF LAND MANAGEMENT-CALIFORNIA,
THE CALIFORNIA ENERGY COMMISSION,
THE PALO VERDE SOLAR 1 LLC, AND
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER REGARDING THE SOLAR MILLENNIUM - BLYTHE SOLAR POWER PROJECT, RIVERSIDE COUNTY, CALIFORNIA

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WHEREAS, an application for a right of way (ROW) grant on approximately 9,400 acres of public lands managed by the Bureau of Land Management (BLM) and a Plan of Development (POD) to construct, operate and maintain a solar energy electrical generating plant, including construction of four independent 250 MW units (Units #1, #2, #3, and #4, a 230 kilovolt (KV) transmission line, a natural gas pipeline, paved arterial roads and parking areas, unpaved perimeter roads, and unpaved access routes, laydown and staging areas, and support facilities, and infrastructure (See Project Description and Appendix D: Project Maps and Illustrations), were submitted for the Blythe Solar Power Project (hereinafter referred to as the Blythe Solar Power Project); and

WHEREAS, the BLM has determined that issuing a right-of-way grant (ROW) to Palo Verde Solar I, LLC (PVSI), in accordance with the Federal Land Policy and Management Act (FLPMA) (Public Law 940-579; 43 USC 1701) is an undertaking as defined at 36 CFR 800.16(y); (Protection of Historic Properties, August 5, 2004) of the regulations implementing section 106 of the National Historic Preservation Act (16 USC 470(f))(NHPA); and

WHEREAS, the BLM is the lead Federal agency for the undertaking for the purpose of complying with Section 106 of the NHPA and its implementing regulations found at 36 CFR Part 800, and the BLM shall be responsible for managing historic properties within the Area of Potential Effects (APE) for the undertaking pursuant to the NHPA; and

WHEREAS, in August 2005, the United States Congress enacted the Energy Policy Act of 2005 (Public Law 109-58). In section 211 of this Act, Congress directed that the Secretary of the Interior (the "Secretary") should, before the end of the 10-year period beginning on the date of enactment of the Act, seek to have approved non-hydropower renewable energy projects located on the public lands with a generation capacity of at least 10,000 megawatts of electricity; and

WHEREAS, by Secretarial Order No. 3285 issued March 11, 2009, the Secretary stated as policy that encouraging the production, development, and delivery of renewable energy is one of the Department of Interior's (DOI) highest priorities and that agencies and bureaus within the DOI will work collaboratively with each other, and with other Federal agencies, departments, states, local communities, and private landowners to encourage the timely and responsible development of renewable energy and associated transmission while protecting and enhancing the Nation's water, wildlife, and other natural resources; and

WHEREAS, the BLM has consulted with the California State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP), pursuant to 36 CFR 800.14(b)(3) and following the procedures outlined at 36 CFR 800.6, and is in the process of considering alternatives for the undertaking that have the potential to adversely affect historic properties and may reach a decision regarding approval of the undertaking before the effects of the undertaking's implementation on historic properties have been fully determined, the BLM chooses to continue its assessment of the undertaking's potential adverse effect and resolve any such effect through the implementation of this Programmatic Agreement (Agreement); and

WHEREAS, the BLM, in consultation with the SHPO and the ACHP and pursuant to 36 CFR 800.4(b)(2), where alternatives under consideration consist of large land areas, has determined that a phased (tiered) process for compliance with Section 106 of the NHPA may be appropriate for the undertaking; and

WHEREAS, the California Energy Commission (Energy Commission), may certify the Blythe Solar Power Project located on public land pursuant to Section 25519, subsection (c) of the Warren-Alquist Act of 1974 and for the purposes of consistency proposes to manage all historical resources in accordance with the stipulations of this Agreement; and

WHEREAS, the BLM, in coordination with the Energy Commission, has authorized the Applicant to conduct specific identification efforts for this undertaking including a review of the existing literature and records, cultural resources surveys, ethnographic studies, and geomorphological studies to identify historic properties that might be located within the Area of Potential Effect (APE); and

WHEREAS, the Applicant has retained an archaeological consultant to complete all of the investigations necessary to identify and evaluate cultural resources located within the APE for both direct and indirect effects. A review of the existing historic, archaeological and ethnographic literature and records has been completed to ascertain the presence of known and recorded cultural resources in the APE and buffered study area, has conducted an intensive field survey for 8,005 acres of land, including all of the lands identified in APE for direct effects for all project alternatives, and has completed intensive field surveys for alternatives on lands that are no longer part of the project. A cultural resources inventory report *Draft Final Class III Survey Report, for the Proposed Blythe Solar Power Project Riverside County, California*, prepared by AECOM, January 2010) that presents the results of identification efforts to the BLM, and the Energy Commission has been submitted by AECOM. The BLM has provided the report to the consulting parties and Indian Tribes for review and comment; and

WHEREAS, the BLM and the Energy Commission have prepared the *Staff Assessment and Draft Environmental Impact Statement and Draft California Desert Conservation Area Plan Amendment, Blythe Solar Power Project, Application for Certification (09-AFC-6) Riverside County (2010)* to identify the project alternatives for purposes of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), and have comparatively examined the relative effects of the alternatives on known historic properties; and

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WHEREAS, the Applicant, as grantee of the proposed ROW, has participated in consultation per 36 CFR 800.2(c)(4), and shall provide all cultural resources documentation required by the BLM in support of the stipulations to this agreement and is willing to carry out the stipulations of this Agreement under the oversight of BLM, and is an Invited Signatory to this Agreement; and

WHEREAS, pursuant to section 101(d)(6)(B) of the NHPA, 36 CFR 800.2(c)(2)(ii), the American Indian Religious Freedom Act (AIRFA), Executive Order 13175, and section 3(c) of the Native American Graves Protection and Repatriation Act (NAGPRA), the BLM is responsible for government-to-government consultation with Federally recognized Indian Tribes and is the lead agency for all Native American consultation and coordination; and

WHEREAS, the BLM has formally notified and invited the Morongo Band of Mission Indians, the Cocopah Indian Tribe, the Fort Yuma Quechan Indian Tribe, the San Manuel Band of Mission Indians, the Torres-Martinez Desert Cahuilla Indians, the Fort Mojave Indian Tribe, the Twenty-Nine Palms Band of Mission Indians, the Agua Caliente Band of Cahuilla Indians, the Augustine Band of Mission Indians, the Cabazon Band of Mission Indians, the Chemehuevi Indian Tribe, and the Colorado River Indian Tribes, (Tribes) to consult on this undertaking and participate in this Agreement as a Concurring Party. The BLM has documented its efforts to consult with the Tribes and a summary is provided in Appendix D to this Agreement; and

WHEREAS, in accordance with regulations at 36 CFR 800.14(b)(3) BLM has notified and invited the Advisory Council on Historic Preservation (ACHP) per 36 CFR 800.6(a)(1)(C) to participate in consultation to resolve the potential effects of the Undertaking on Historic Properties, and as per their letter dated October 2, 2008, the ACHP has elected not to participate in this PA; and

WHEREAS, the BLM shall continue to consult with the Tribes throughout the implementation of this Agreement regarding the adverse effects to historic properties to which they attach religious and cultural significance. The BLM will carry out its responsibilities to consult with Tribes that request such consultation with the further understanding that, notwithstanding any decision by these tribes to decline concurrence, the BLM shall continue to consult with these Tribes throughout the implementation of this Agreement; and

WHEREAS, through consultation, Tribes have expressed their views and concerns about the importance and sensitivity of specific cultural resources that hold religious and cultural significance. Tribes have expressed the connection of these resources to the broader cultural landscape within and near the project area: and

NOW, THEREFORE, the BLM, and the SHPO, (hereinafter "Signatories), the Energy Commission, and the Applicant (hereinafter "Invited Signatories"), agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

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STIPULATIONS

The BLM shall ensure that the following measures are implemented:

I. DEFINITIONS

The definitions found at 36 CFR 800.16 and in this section apply throughout this agreement except where another definition is offered in this Agreement.

a) ***Concurring Parties.*** Collectively refers to consulting parties with a demonstrated interest in the Undertaking, who concur, through their signature, in this Agreement. Concurring Parties may propose amendments to this Agreement. Amendments proposed by Concurring Parties may be considered at the discretion of the Signatories.

b) ***Cultural Resource.*** A cultural resource is an object or definite location of human activity, occupation, or use identifiable through field inventory, historical documentation, or oral evidence. Cultural resources are prehistoric, historic, archaeological, or architectural sites, structures, buildings, places, or objects and definite locations of traditional cultural or religious importance to specified social and/or culture groups. Cultural resources include the entire spectrum of resources, from artifacts to cultural landscapes, without regard to eligibility for inclusion on the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR).

c) ***Consulting Parties.*** Collectively refers to the Signatory, Invited Signatory and Concurring Parties to this Agreement.

d) ***Day.*** Singular or plural, refers to a calendar, rather than a business, day.

e) ***Historic Properties.*** Historic Properties are included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior and per the NRHP eligibility criteria at 36 CFR § 60.4 and may include any prehistoric or historic district, site, building, structure, or object. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the NRHP criteria. The term eligible for inclusion in the NRHP includes both properties formally determined as such in accordance with regulations of the Secretary of the Interior and all other properties that meet the NRHP criteria.

f) ***Historic Resources.*** Historic resources meet the criteria for listing on the CRHR as provided at the California Code of Regulations Title 14, Chapter 11.5, Section 480 and may include, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

g) ***Invited Signatories.*** Invited Signatories to this Agreement are the Energy Commission and Applicant. Invited Signatories have specific responsibilities as defined in this Agreement and have the same rights as the Signatory Parties to propose amendments and

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termination of this Agreement, but their signatures are not required for execution of the Agreement.

h) ***Lands Administered by the U.S. Department of Interior, Bureau of Land Management*** (BLM) means any Federal lands under the administrative authority of the BLM.

i) ***Literature Review.*** A literature review is one component of a BLM class 1 inventory, as defined in BLM Manual Guidance 8100. 21(A)(1), and is a professionally prepared study that includes a compilation and analysis of all reasonably available cultural resource data and literature, and a management-focused, interpretive, narrative overview, and synthesis of the data. The overview may also define regional research questions and treatment options.

j) ***Phased Project Construction.*** PVSI proposes that the Blythe Solar Power Project (BSPP) be phased over the construction period of the project based on the area to be disturbed. Phasing will be defined in relation to a proposed disturbance area for the purpose of defining the limits of coverage. PVSI envisions two overall phases of construction: Phase 1 for Unit 1 and Unit 2 and Phase II for Units 3 and 4. Within Phase I, PVSI will start with Phase 1a, a limited area needed to start construction on critical items from Fall 2010 through the first half of 2011. As detailed in the revised draft Biological Assessment submitted to BLM, Phase 1a has been defined to facilitate development in Fall of 2010 through the first half of 2011. Phase 1Ia will consist of two types of construction areas: (1) linear facilities, including the access road and communication lines and (2) non-linear facilities to include a staging/lay down area and a portion of the Unit 1 solar block area.

k) ***Records Search.*** A records search is one component of a BLM class I inventory and an important element of a literature review. A records search involves obtaining existing cultural resource data from published and unpublished documents, BLM cultural resource inventory records, institutional site files, State and national registers, interviews, and other information sources.

l) ***Signatories.*** Signatories to this Agreement are the BLM, COE, SHPO, and ACHP. Signatories have the sole authority to execute, amend or terminate this Agreement.

m) ***Traditional Cultural Property.*** A traditional cultural property is defined generally as property that is important to a living group or community because of its association with cultural practices or beliefs that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. It is a place that may figure in important community traditions or in culturally important activities, such as traditional gathering areas, prayer sites, or sacred/ceremonial locations. These sites may or may not contain features, artifacts, or physical evidence, but are usually identified through consultation. A traditional cultural property may be eligible for inclusion in the NRHP and the CRHR.

n) ***Tribes.*** The federally recognized and non-federally recognized Indian Tribes that BLM is consulting with on this undertaking.

o) ***Undertaking.*** Issuing any ROW/permit by the BLM allowing or facilitating construction, operation or maintenance activities related to the Project on BLM administered lands constitutes an "undertaking" as defined at 36 CFR 800.16(y) and is the undertaking addressed by this Agreement.

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p) ***Windshield Survey.*** A windshield survey is a common method utilized in reconnaissance surveys to identify built-environment cultural resources, such as buildings, objects, and structures. Windshield surveys involve surveyors driving or walking streets and roads of a community and observing and recording the buildings, structures, and landscape characteristics they see.

II. AREA OF POTENTIAL EFFECTS

a) The APE is defined as the geographic area or areas within which the undertaking may directly or indirectly cause alterations in the character or use of historic properties per 36 CFR 800.16(d). The APE is influenced by the scale and nature of an undertaking and includes those areas which could be affected by the project prior to, during and after construction. For the Imperial Valley Solar Project the APE has been defined to include a 15 mile radius around the project location. Specific APE's for the project are discussed below and include the methodology used to identify historic properties. See Appendix E for APE map and project illustrations.

i) Historic properties could sustain direct physical effects as a result of the undertaking and is defined to include:

(1) All areas subject to the BLM's ROW decision for Phase I, consists of two 250 MW solar fields and power blocks totaling 500 MW, and the Phase II areas, also consisting of two 250 MW solar fields and power blocks totaling 500 MW, for a grand total of 1,000 MW for the two phases, which includes approximately 9,400 acres of public lands. The area is generally bounded by Interstate 10 on the south, An electrical transmission line corridor runs north-south, two miles to the east, the McCoy Mountains lie to the west, and McCoy Wash lies to the north.

(2) The APE for linear elements of the undertaking includes:

(a) A ROW for a new four-inch diameter, approximately 5 mile long natural gas pipeline to be constructed to connect the Blythe project to an existing Southern California Gas (SCG) pipeline situated south of I-10. A survey corridor for cultural resources for this linear element was established as a 50-foot buffer on either side of the center line (100 foot corridor) to allow for changes in the ROW to avoid cultural resources. The pipeline will be buried within a minimum three feet of cover depending on location. The gas line route takes off from an existing SCG line 1,800 feet south of I-10. There is an existing gas line running through a portion of the site that has been abandoned in places. The existing line will be removed as necessary during construction.

(b) A ROW for temporary or permanent access roads required outside the plant footprint measuring approximately 50 feet. A survey corridor for cultural resources for this linear element was established as a 150-foot buffer on

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either side of the center line (300 foot corridor) to allow for changes in the ROW to avoid cultural resources.

(c) The ROW for the 230 KV transmission line defined as an approximately 120 foot wide and approximately 10 mile long corridor that extends to the Colorado River Substation. A survey corridor for cultural resources for this linear element was established as a 150-foot buffer on either side of the center line (300 foot corridor) to allow for changes in the ROW to avoid cultural resources.

(d) Project maps and illustrations are provided in Appendix E to this Agreement.

ii) Historic properties not located within the areas described in Stipulation II(a)(i) that could sustain direct or indirect effects, including visual, auditory, and atmospheric, as a result of the undertaking including:

(1) Cultural resources identified through a review of the existing literature, information or records on file with the BLM or at the EIC, interviews or discussions with local professional or historical society and local experts in history or archaeology. Specific areas of concern or cultural resources that were identified include:

(a) Cultural resources in the Mule Mountains Area of Critical Environmental Concern (ACEC).

(b) The Bradshaw Trail and numerous, wide-spread, previously recorded, prehistoric trail segments.

(c) Any cultural resource or location which has been included in the Native American Heritage Commission Sacred Lands Files, or identified by an Indian Tribe, Tribal organization, or individual through consultation as having religious or cultural significance. Specific areas of concern or cultural resources that have been identified through consultation include certain geological features or places to which the Tribes attach religious or cultural significance.

(2) Any cultural resource or location which has been identified by a consulting party, organization, governmental entity, or individual through consultation or the public commenting processes as having significance or being a resource of concern. Areas identified through consultation include:

(i) The Bradshaw Trail and numerous, wide-spread, previously recorded, prehistoric trail segments. The Bradshaw Trail corridor was identified by William D. Bradshaw from maps he obtained from Cabazon, a desert Cahuilla leader and an unnamed Maricopa from Arizona. The corridor has prehistoric and sacred Native American values as well as historic

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significance. This system of trails and trail segments may also project recreation and visitor experience values.

(ii) No identifiable and recognizable physical evidence or historic properties associated with the prehistoric trail system have yet been identified within the APE for direct effects. Specific areas of concern or cultural resources have been identified both south and west of the project location and include:

1. Black Rock (a geological feature)
2. Mule Mountains ACEC
3. McCoy Spring

(b) Sites associated with the Trail system

(i) No identifiable and recognizable physical evidence or historic properties associated with the Bradshaw Trail or the prehistoric trails network have been identified within the APE for direct effects.

(3) Built-environment resources

(a) The APE is expanded to include a half-mile buffer from the project site and above-ground linear facilities to encompass historic properties whose historic setting could be adversely affected. A one half mile (0.5) study area buffer was established around the proposed project to identify significant built environment resources that might be affected. Specific areas of concern or cultural resources have been identified both south and north of the project location and include:

(i) Blythe Airport
(ii) Interstate Highway 10.
(iii)The Atchison, Topeka and Santa Fe Railroad
(iv)A segment of the Parker Headgate Rock-Blythe 161KV transmission line

(b) Cultural resources identified through windshield survey within one mile of the APE for direct effects

(4) Cultural resources identified through a review of the existing literature, information and records search at the BLM Palm Springs-South Coast Field Office and at the EIC, for cultural resources that are located within a one mile buffer of project area.

(a) Historic Districts and Landscapes

(i) The Desert Training Center California-Arizona Maneuver Area (DTC/C-AMA).

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        (b) Numerous prehistoric trail segments have been recorded throughout the project area.

b) **Amending the APE**: The APE encompasses an area sufficient to accommodate all of the proposed and alternative project components under consideration as of the date of the execution of this Agreement. If BLM determines in the future that unforeseen changes to the undertaking may cause alterations in the character or use of historic properties, if any such properties exist, in a geographic area or areas beyond the extent of the APE above, then the BLM, in consultation with the Signatories and Invited Signatories shall modify the size of the APE using the process set forth in stipulation.

    i) Any consulting party to this Agreement may propose that the APE established herein be modified. The BLM shall notify the Signatories and Invited Signatories of the proposal and consult for no more than 15 days to reach agreement on the proposal.

    ii) If the Signatories agree to the proposal, then the BLM will prepare a description and a map of the modification to which the Signatories agree. The BLM will keep copies of the description and the map on file for its administrative record and distribute copies of each to the other Signatories and Invited Signatories within 30 days of the day upon which agreement was reached.

    iii) Upon agreement to a modification to the APE that adds a new geographic area, the BLM shall follow the processes set forth in Stipulation III to identify and evaluate historic properties in the new APE, assess the effects of the undertaking on any historic properties in the APE, and provide for the resolution of any adverse effects to such properties, known or subsequently discovered.

    iv) If the Signatories cannot agree to a proposal for the modification of the APE, then they will resolve the dispute in accordance with Stipulation IX©(iii).

II. IDENTIFICATION AND EVALUATION

a) The BLM, in coordination with the Energy Commission, has authorized the Applicant to conduct specific identification efforts for this undertaking including a review of the existing literature and records, cultural resources surveys, ethnographic studies, and geomorphological studies to identify historic properties that might be located within the APE.

    i) A cultural resources report (AECOM January 2010) has been submitted by the Applicant that presents the results of identification efforts to the BLM, and the Energy Commission and is currently under review. The BLM, and the Energy Commission will assess whether the report conforms with the field methodology and

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site description template required under BLM Fieldwork Authorization CA-660-66.24 09-10, Fieldwork Authorization CA-660-66.24 09-12, Fieldwork Authorization CA-660-66.24 10-02, and Fieldwork Authorization CA-660-66.24 10-04, and Energy Commission transaction number Data Requests Set 1, Part #1-260.

ii) The BLM, in consultation with the Energy Commission, may require additional field investigations to ensure the accuracy of site recordation and to provide additional information to support site evaluations and the assessment of effects. The BLM, the COE, and the Energy Commission, separately or together, have the right and the discretion, under this Agreement, to request additional field studies.

iii) The BLM has consulted and shall respond to any request to consult with Tribes, Tribal organizations or tribal individuals regarding the identification of historic properties within the APE to which they attach religious or cultural significance.

b) The BLM shall make determinations of eligibility consistent with 800.4(b)(2) and findings of effect consistent with 800.5(a)(1) prior to the Record of Decision to the extent practicable on those cultural resources within the area of direct impact, and make the agency's determinations and findings available to the consulting parties, Tribes and the public for a 45 day review and comment period.

i) The BLM will respond to any request for consultation on its determinations from a consulting party to this Agreement or a Tribe.

ii) A consulting party may provide its comments directly to the SHPO with a copy to the BLM within the 45 day comment period.

iii) Absent comment within 45 days, the BLM may submit its determinations to SHPO for final review and comment.

iv) Where a consulting party or Tribe objects to the BLM's determination for a specific cultural resource within the 45 day review period, the BLM shall consult with the objecting party and the SHPO regarding the nature of the objection and reconsider its determinations.

(1) If the objection is not resolved, the BLM shall further consult with the SHPO and follow the processes provided at 36 CFR 800.4(c)(2)for the involvement of the ACHP.

(2) The BLM may proceed with determinations for all cultural resources not subject to objection.

v) The BLM and the Energy Commission shall coordinate to the extent feasible and practicable on determinations of eligibility for the NRHP and the CRHR.

(1) Historic Properties formally determined eligible for inclusion in the NRHP are listed on the CRHR per California Code of Regulations 4851(a)(1).

(2) If BLM and the Energy Commission do not agree on the eligibility of historic properties for the NRHP and CRHR respectively, the BLM and the Energy Commission shall consult with the SHPO for 15 days to resolve disagreements with regard to eligibility.

(a) The SHPO shall have the final authority to resolve disagreements regarding eligibility for the CRHR.

(i) If the SHPO determines that the cultural resource is eligible for the CRHR, the SHPO shall notify the Energy Commission and BLM and may request that BLM reconsider its determination.

vi) BLM will submit its determinations of eligibility to the SHPO for final review and comment.

(1) SHPO will have 30 days in which to review and comment.

(2) Absent comments within this time frame, BLM may assume, and formally document for the record, that the SHPO has elected not to comment and concurs with BLM's determinations.

(3) If the BLM and SHPO disagree on the determination, BLM shall follow the processes provided at 36 CFR 800.4(c)(2) and seek a determination from the Keeper of the National Register.

c) The BLM may defer the formal and final evaluation of cultural resources whose values are limited to the potential to yield information about history or prehistory and where testing or limited excavation is recommended to determine whether the site would be eligible under Criterion D for inclusion on the NRHP. The BLM may also treat cultural resources as historic properties for the purpose of project management if adverse effects to those specific resources can be avoided.

i) If adverse effects to a cultural resource which is being treated as a historic property cannot be avoided, the BLM must either evaluate the resource and make a determination of eligibility or resolve the adverse effect by implementing the prescriptions of the Historic Properties Treatment Plan (HPTP).

ii) Where the evaluation of cultural resources for the potential to yield information may be deferred, the Applicant shall submit to the BLM an analysis of the cultural resources that the Undertaking appears likely to affect. The analysis shall also detail which cultural resources that the undertaking appears to have no potential to affect, which cultural resources the Applicant commits to avoiding through the implementation of formal avoidance measures, and which cultural resources cannot be avoided and will need to be evaluated and treated by implementing the

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prescriptions of the HPTP required in Section III of the Agreement. This analysis will be included on the table format in Appendix H prior to the Record of Decision.

iii) The Applicant, with the approval of the BLM, and the Energy Commission, may prepare the analysis required above in phases that correspond to the proposed sequence of development for the Phase 1a and Phase 1b areas for the first 500 MW and Phase 2 500 MW energy plant, provided that analyses are ultimately prepared for the entirety of the APE, and that analysis of sites within those phases may be prioritized based on impacts posed by the development schedule within each phase.

iv) Where additional evaluation efforts are required to assess the informational values of cultural resources, the BLM and the Energy Commission shall ensure that cultural resources located within the APE are evaluated for the NRHP and the CRHR pursuant to the guidelines provided in Appendix A of this Agreement.

d) Where additional identification and evaluation efforts are required due to changes in the project and the APE, the BLM and the Energy Commission shall ensure that cultural resources located within the APE are identified and evaluated for the NRHP and the CRHR pursuant to Appendix A of this Agreement.

e) Amendment of the identification and evaluation process as set forth hereunder will not require amendment of this Agreement if all Signatories do so agree.

III. TREATMENT AND MANAGEMENT OF HISTORIC PROPERTIES

a) The resolution or mitigation of effects to historic properties shall be described in one or more HPTP(s) that shall be an attachment to Appendix B of this Agreement.

i) The BLM and the Applicant, in consultation with the consulting parties and Tribes, shall seek to develop a draft HPTP prior to the ROD if feasible, or to otherwise develop a framework and consensus on the general treatment measures for affected historic properties that would be finalized in the HPTP.

(1) Prior to the issuance of any Notice to Proceed by BLM to initiate the undertaking or any component of the undertaking, which may affect historic properties the Applicant shall develop and submit to BLM one or more HPTPs.
(2) The HPTP will be implemented after the ROW is granted by the BLM but prior to the issuance of a Notice to Proceed for construction in those portions of the undertaking addressed by the HPTP.
(3) The BLM will authorize the phased implementation of the HPTP (per Stipulation IX, or if appropriate, the development of HPTPs for individual cultural resources, or HPTPs that are issue or geographically oriented.

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ii) The BLM and the Energy Commission, consistent with the guidelines provided in Appendix B(2), shall coordinate on the development of the treatment or mitigation measures proposed in the Energy Commission's Conditions of Certifications and the treatment measures developed through the Section 106 consultation process.

b) The BLM shall submit the HPTP to the consulting parties and Tribes for a 30 day review period. Absent comments within this time frame, BLM may finalize the HPTP. BLM will provide the parties with written documentation indicating whether and how the draft HPTP will be modified in response to any timely comments received. If the HPTP is revised in response to comments, BLM shall submit the revised HPTP to all parties for a 15 day review period. Absent comments within this time frame, BLM will finalize the HPTP. BLM will provide the consulting parties and Tribes with a copy of the final HPTP.

c) Where an HPTP specifically addresses treatments for adverse effects to historic properties to which Tribes attach religious or cultural significance, the BLM shall submit the HPTP to the Tribes and seek their views and comments during the same 30 day review period established for consulting parties, regardless of the status of a Tribe as a consulting party to this Agreement.

   i) BLM shall submit an HPTP which addresses treatment for adverse effects to historic properties to which a Tribe(s) attaches religious and cultural significance to the SHPO. The BLM shall consult with involved Tribe(s) on distribution of the HPTP to other consulting parties.

d) BLM shall ensure that one or more HPTPs, developed in accordance with Appendix B of this Agreement, is completed and implemented.

e) BLM shall ensure that a Historic Property Management Plan (HPMP), which provides for the protection and management of historic properties during the operational life and decommissioning of the solar energy power plant, is developed and implemented in accordance with Appendix C of this Agreement.

f) Amendment of an HPTP or HPMP as set forth hereunder will not require amendment of this Agreement if all Signatories do so agree. If the Signatories do not agree to the amendment of the HPTP or HPMP, the disagreement will be resolved pursuant to the procedures in Section XI of this Agreement.

IV. DISCOVERIES AND UNANTICIPATED EFFECTS

If the BLM determines during implementation of the HPTP that either the HPTP or the undertaking will affect a previously unidentified property that may be eligible for the NRHP, or affect a known historic property in an unanticipated manner, the BLM will address the discovery

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or unanticipated effect in accordance with those provisions of the HPTP that relate to the treatment of discoveries and unanticipated effects. BLM at its discretion may hereunder assume any discovered property to be eligible for inclusion in the NRHP. BLM compliance with this stipulation shall satisfy the requirements of 36 CFR 800.13(a)(1).

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V. TREATMENT OF HUMAN REMAINS OF NATIVE AMERICAN ORIGIN

a) The parties to this Agreement agree that Native American burials and related items discovered on BLM administered lands during implementation of the terms of the Agreement will be treated in accordance with the requirements of the NAGPRA. The BLM will consult with concerned Indian Tribes, Tribal Organizations, or individuals in accordance with the requirements of §§ 3(c) and 3(d) of the NAGPRA and implementing regulations found at 43 CFR Part 10 to address the treatment of Native American burials and related cultural items that may be discovered during implementation of this Agreement.

b) In consultation with the Tribes, the BLM shall seek to develop a Comprehensive Agreement pursuant to 43 CFR 10.5(f) to manage the inadvertent discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony.

c) The BLM shall ensure that Native American burials and related cultural items on private lands are treated in accordance with the requirements of §§ 5097.98 and 5097.991 of the California Public Resources Code, and § 7050.5(c) of the California Health and Human Safety Code.

VI. STANDARDS AND QUALIFICATIONS

a) PROFESSIONAL QUALIFICATIONS. All actions prescribed by this Agreement that involve the identification, evaluation, analysis, recordation, treatment, monitoring, and disposition of historic properties and that involve the reporting and documentation of such actions in the form of reports, forms or other records, shall be carried out by or under the direct supervision of a person or persons meeting, at a minimum, the Secretary of the Interior's Professional Qualifications Standards (PQS), as appropriate (48 FR. 44739). However, nothing in this stipulation may be interpreted to preclude any party qualified under the terms of this paragraph from using the services of properly supervised persons who do not meet the PQS. Tribal consultants who are available to perform monitoring duties are assigned and approved of by each Tribe.

b) DOCUMENTATION STANDARDS. Reporting on and documenting the actions cited in this Agreement shall conform to every reasonable extent with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 FR. 44716-44740), as well as, the BLM 8100 Manual, the California Office of Historic Preservation's Preservation Planning Bulletin Number 4(a) December 1989, Archaeological Resource Management Reports (ARMR): Recommended Contents and Format (ARMR Guidelines) for the Preparation and Review of Archaeological Reports, and any specific county or local requirements or report formats as necessary.

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c) CURATION STANDARDS. On BLM-administered land, all records and materials resulting from the actions cited in Stipulation III, IV and V of this Agreement shall be curated in accordance with 36 CFR Part 79, and the provisions of the NAGPRA, 43 CFR Part 10, as applicable. To the extent permitted under §§ 5097.98 and 5097.991 of the California Public Resources Code, the materials and records resulting from the actions cited in Stipulation III and IV of this Agreement for private lands shall be curated in accordance with 36 CFR Part 79. The BLM will seek to have the materials donated through a written donation agreement to be curated with other cultural materials. The BLM will attempt to have all collections curated at one local facility where possible unless otherwise agreed to by the consulting parties.

VII. REPORTING REQUIREMENTS

a) Within twelve (12) months after the BLM, in consultation with the Energy Commission, has determined that all fieldwork required by Stipulations III and IV have been completed, the BLM will ensure preparation, and concurrent distribution to the consulting parties and Tribes a written draft report that documents the results of implementing the requirements of each Stipulation. The consulting parties and Tribes will be afforded 45 days following receipt of each draft report to submit any written comments to the BLM. Failure of these parties to respond within this time frame shall not preclude the BLM from authorizing revisions to the draft report as the BLM may deem appropriate. The BLM will provide the reviewing parties with written documentation indicating whether and how each draft report will be modified in accordance with any reviewing party comments. Unless the reviewing parties object to this documentation in writing to the BLM within 14 days following receipt, the BLM may modify each draft report as the BLM may deem appropriate. All objections shall be resolved pursuant to Stipulation XI. Thereafter, the BLM may issue the reports in final form and distribute these documents in accordance with Stipulation VIII(b).

b) Unless otherwise requested, one paper copy of final reports documenting the results of implementing the requirements of Stipulation III or IV will be distributed by the BLM to each consulting party, Tribes and to the California Historical Resources Information Survey (CHRIS) Regional Information Center.

c) The BLM shall ensure that any draft document that communicates, in lay terms, the results of implementing the requirements of Stipulation III or IV, to members of the interested public, is distributed for review and comment concurrently with and in the same manner as that prescribed for the draft technical report prescribed by Stipulation VIII(a). If the draft document prescribed hereunder is a publication such as a report or brochure, publication shall upon completion be distributed by the BLM to the consulting parties, and to any other entity that the consulting parties may deem appropriate.

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VIII. IMPLEMENTATION OF THE UNDERTAKING

a) The BLM may authorize construction activities and manage the implementation of HPTP(s) in phases corresponding to the construction phases of the undertaking.

  i) Upon approval of an HPTP for Phase 1a (a portion of the Phase 1 500MW component), the BLM may authorize a Notice to Proceed for construction activities.

    (1) An HPTP(s) for Phase 1b (the remaining portion of the Phase 1) and Phase 2 500 MW component may be separately developed and implemented after approval of the HPTP and issuance of the Notice to Proceed above for the Phase Ia component.

b) The BLM may authorize construction activities (i.e., issue Notice(s) to Proceed), including but not limited to those listed below, to proceed in specific geographic areas of the undertaking's APE where there are no historic properties, where there will be no effect to historic properties, where a monitoring and discovery plan has been approved, an HPTP has been approved and initiated, and the activity would not preclude preservation or protection of historic properties in an area for which an HPTP has not been approved. Such construction activities may include:

    (1) demarcation, set up, and use of staging areas for the project's construction,
    (2) except for limited activities allowed under the current Environmental Assessment and approved by the BLM the conduct of geotechnical boring investigations or other geophysical and engineering activities, and
    (3) construction activities such as grading, constructing buildings, and installing parabolic solar trough assemblies

c) Initiation of any construction activities on federal lands shall not occur until after the ROD and Notice(s) to Proceed have been issued by the BLM.

IX. AMENDMENTS TO THE AGREEMENT

a) This Agreement may be amended only upon written agreement of the Signatories.

b) Any consulting party to this Agreement may at any time propose amendments.

  i) Upon receipt of a request to amend this Agreement, the BLM will immediately notify the other consulting parties and initiate a 30 day period to consult on the proposed amendment, whereupon all parties shall consult to consider such amendments.

  ii) If agreement to the amendment cannot be reached within the 30 day period, resolution of the issue may proceed by following the dispute resolution process in Stipulation X.

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iii) This Agreement may only be amended when such an amendment is agreed to in writing by all Signatories.

c) Any consulting party to this Agreement may at any time propose modifications to the Appendices.

i) Each Appendix to the Agreement may be individually modified without requiring amendment of the Agreement, unless the Signatories through such consultation decide otherwise.

ii) Upon receipt of a request to modify an Appendix, BLM will immediately notify the Signatories, Invited Signatories and Concurring parties to consult on the proposed modifications and initiate a 30 day consultation period, whereupon all parties shall consult to consider such modification.

iii) If agreement on the modification cannot be reached within the 30 day period, resolution of the issue may proceed by following the dispute resolution process in Stipulation XI (c).

iv) Modifications to an Appendix shall only take effect when and on the date that they are agreed to by the Signatories.

d) Amendments to this Agreement shall take effect on the dates that they are fully executed by the Signatories.

e) If the Agreement is not amended through the above process, any Signatory to this Agreement may terminate its participation in the Agreement in accordance with Stipulation XI.

X. DISPUTE RESOLUTION

a) Should the Signatories or Invited Signatories object at any time to the manner in which the terms of this Agreement are implemented, the BLM will immediately notify the other Signatories and Invited Signatories and initiate a 30 day period in which to resolve the objection.

b) If the objection can be resolved within the consultation period, the BLM may authorize the disputed action to proceed in accordance with the terms of such resolution.

c) If at the end of the 30 day consultation period, the objection cannot be resolved through such consultation, the BLM will forward all documentation relevant to the objection to the ACHP per 36 CFR 800.2(b)(2). Any comments provided by the ACHP within 30 days after its receipt of all relevant documentation will be taken into account by the BLM

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in reaching a final decision regarding the objection. The BLM will notify the Signatories, Invited Signatories, and Concurring Parties in writing of its final decision within 14 days after it is rendered.

d) The BLM's responsibility to carry out all other actions under this Agreement that are not the subject of the objection will remain unchanged.

e) At any time during implementation of the terms of this Agreement, should an objection pertaining to the Agreement be raised by a Concurring party or a member of the interested public, the BLM shall immediately notify the Signatories, Invited Signatories, and other Concurring Parties, consult with SHPO about the objection, and take the objection into account. The other consulting parties may comment on the objection to the BLM. The BLM shall consult with the objecting party(ies) for no more than 30 days. Within 14 days following closure of consultation, the BLM will render a decision regarding the objection and notify all parties of its decision in writing. In reaching its final decision, the BLM will take into account all comments from the parties regarding the objection. The BLM shall have the authority to make the final decision resolving the objection. Any dispute pertaining to the NRHP eligibility of historic properties or cultural resources covered by this Agreement will be addressed by the BLM per 36 CFR 800.4(c)(2).

XI. TERMINATION

a) The Signatories and Invited signatories have the authority to terminate this Agreement. If this Agreement is not amended as provided for in Stipulation IX, or if a Signatory or Invited Signatory proposes termination of this Agreement for other reasons, the party proposing termination shall notify the other Signatories and Invited Signatories in writing, explain the reasons for proposing termination, and consult for no more than 60 days to resolve the objection.

b) If a Concurring Party seeks termination of this Agreement, the Concurring party may terminate its participation and shall notify the Signatories and Invited Signatories in writing, explain the reasons for proposing termination or terminating their participation, and consult for no more than 60 days to resolve the objection.

c) Should consultation result in an agreement to resolve the objection, the Signatories shall proceed in accordance with that agreement.

d) Should such consultations fail, the Signatory proposing termination may terminate this Agreement by notifying the other parties in writing.

e) Should the entire Agreement be terminated, then the BLM shall either consult in accordance with 36 CFR 800.14(b) to develop a new agreement or request the comments of the ACHP pursuant to 36 CFR 800.7(a).

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XII. WITHDRAWAL OR ADDITION OF PARTIES FROM/TO THE AGREEMENT

a) The BLM will respond to any written request for consulting party status pursuant to 36 CFR 800.2 and 800.3(f).

   i) Should a Concurring Party determine that its participation in the undertaking and this Agreement is no longer warranted, the party may withdraw from participation by informing the BLM of its intention to withdraw as soon as is practicable. The BLM shall inform the other consulting parties to this Agreement of the withdrawal.

   ii) Should conditions of the undertaking change such that other state, federal, or tribal entities not already party to this Agreement request to participate, the BLM will notify the other consulting parties and invite the requesting party to participate in the Agreement. The Agreement shall be amended following the procedures in Stipulation IX.

XIII. DURATION OF THIS AGREEMENT

a) This Agreement will expire if the undertaking has not been implemented and the BLM right-of-way grant expires or is withdrawn, or the stipulations of this Agreement have not been implemented within five (5) years from the date of its execution. At such time, the BLM may consult with the other consulting parties to reconsider the terms of the Agreement and amend it in accordance with Stipulation X. The BLM shall notify the Signatories as to the course of action they will pursue within 30 days.

b) This Agreement expires 30 years from its effective date unless extended by written agreement of the Signatories. The Signatories and Invited Signatories shall consult at year 10 to review this Agreement. Additionally, the Signatories and Invited Signatories shall consult not less than one year prior to the expiration date to reconsider the terms of this Agreement and, if acceptable, direct the Signatories extend the term of this Agreement. Reconsideration may include continuation of the Agreement as originally executed or amended, or termination. Extensions are treated as amendments to the Agreement under Stipulation IX.

c) Unless the Agreement is terminated pursuant to Stipulation XI, another agreement executed for the undertaking supersedes it, or the undertaking itself has been terminated, this Agreement will remain in full force and effect until BLM, in consultation with the other Signatories, determines that implementation of all aspects of the undertaking has been completed and that all terms of this Agreement and any subsequent tiered agreements have been fulfilled in a satisfactory manner. Upon a determination by BLM that implementation of all aspects of the undertaking have been completed and that all terms of this Agreement and any subsequent tiered agreements have been fulfilled in a

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satisfactory manner, BLM will notify the consulting parties of this PA in writing of the agency's determination. This Agreement will terminate and have no further force or effect on the day that BLM so notifies the Signatories to this Agreement.

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XIV. EFFECTIVE DATE

a) This Agreement and any amendments shall take effect on the date that it has been fully executed by the Signatories. The Agreement and any amendments thereto shall be executed in the following order: (1) Applicant, (2) Energy Commission, (3) BLM, (4) and SHPO.

Execution and implementation of this Agreement is evidence that the BLM has taken into account the effect of this undertaking on historic properties, afforded the ACHP a reasonable opportunity to comment, and that the BLM has satisfied its responsibilities under Section 106 of the NHPA. The Signatories and Invited Signatories to this PA represent that they have the authority to sign for and bind the entities on behalf of whom they sign

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SIGNATORY PARTIES

U.S. BUREAU OF LAND MANAGEMENT

BY: ______________________________ DATE: ______________
James Wesley Abbot
State Director

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

BY: ______________________________ DATE: ______________
Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

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INVITED SIGNATORY PARTIES

CALIFORNIA ENERGY COMMISSION

BY: ______________________________ DATE: ______________

PALO VERDE SOLAR I, LLC.

BY: ______________________________ DATE: ______________

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CONCURRING PARTIES:

(This is a potential list only)
MORONGO BAND OF MISSION INDIANS
COCOPAH INDIAN TRIBE
FORT YUMA QUECHAN INDIAN TRIBE
SAN MANUEL BAND OF MISSION INDIANS
TORRES-MARTINEZ DESERT CAHUILLA INDIANS
FORT MOJAVE INDIAN TRIBE
TWENTYNINE PALMS BAND OF MISSION INDIANS
AGUA CALIENTE BAND OF CAHUILLA INDIANS
AUGUSTINE BAND OF MISSION INDIANS
CABAZON BAND OF MISSION INDIANS
CHEMEHUEVI INDIAN TRIBE
COLORADO RIVER INDIAN TRIBES

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Solar Millennium Blythe Solar Power Project

Site Designation	Cultural Context	Site Taxonomy	Location within Project APE	Geomorphic Landform	Potential for Buried Deposits Based on Geomorphologic Landform	AECOM Eligibility Recommendation*
CA-RIV-1136	Prehistoric	pot drop of 13 ceramic sherds	CEC buffer	Alluvial fan	Low	Unevaluated
CA-RIV-1464	Prehistoric	path through desert pavement running east-west for 700 meters; 90-degree turn to south at west end – probable modern feature associated with private property boundary	Phase 1a	Alluvial fan	Moderate	Not eligible for the CRHR or NRHP
CA-RIV-2846	Prehistoric	sparse, extensive flaked stone scatters and other features across Pleistocene pebble terrace	Phase 1a, 1b, 2	Pleistocene alluvial deposits	Moderate to High	Eligible under CRHR Criterion 4 and unevaluated for NRHP
CA-RIV-3419	Prehistoric	sparse, extensive flaked stone scatters and other features across Pleistocene pebble terrace	Phase 1a, 1b, & 2	Pleistocene alluvial deposits	Moderate to High	Eligible under CRHR Criterion 4 and unevaluated for NRHP
CA-RIV-5674H	Historic	Historic period refuse dump and roadbed	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP
CA-RIV-7175	Prehistoric	3 bifaces (heat-treated chalcedony, dart-sized point blanks), 80 biface reduction flakes, 1 metavolcanic mano	CEC buffer	Alluvial fan	Low to Moderate	Unevaluated
CA-RIV-9011	Historic	milk cans, knife-cut cans, rotary-opened cans, key-wind meat cans, P38-opened ration cans, Anchor Hocking glass jar (1938-1977)	Substation	Aeolian sand	Low	Not eligible for the CRHR or NRHP
SMB-H-002	Historic	key-wind military ration cans, amber beer bottle	Substation	Aeolian sand	Low	Not eligible for the CRHR or NRHP
SMB-H-107	Historic	hole-in-top can, other cans	CEC buffer	Alluvial fan	Low	Unevaluated
SMB-H-109	Historic	military ration cans, aluminum soft-top can	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-110	Historic	military ration cans	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-111	Historic	rock cairns associated with prospecting pits and debris	CEC buffer	Alluvial fan	Low	Unevaluated
SMB-H-113	Historic	aircraft parts, cairns	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-114	Historic	military ration cans	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-115	Historic	military ration cans, bullet casing, metal wire	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-116	Historic	hole-in-cap cans, can embossed "SANITARY"	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP

*These are Preliminary eligibility determinations only. The BLM will consult with all interested tribes on the PA and the Historic Property Treatment Plan process in order to validate final eligibility determinations

Solar Millennium Blythe Solar Power Project

Site Designation	Cultural Context	Site Taxonomy	Location within Project APE	Geomorphic Landform	Potential for Buried Deposits Based on Geomorphologic Landform	AECOM Eligibility Recommendation*
SMB-H-118	Historic	military ration cans, fuel can, military mess-kit spoon (embossed with "U.S."), bullets, metal wire	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-119	Historic	evaporated milk cans, key-wind meat can	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-120	Historic	sardine cans, key-wind sanitary can	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-121	Historic	military ration cans	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-122	Historic	military ration cans, military mess-kit spoon (embossed with "U.S.")	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-123	Historic	military ration cans, glass jar	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-124	Historic	key-wind sardine can, baking powder can, other sanitary cans	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-125	Historic	military ration cans, key-wind meat can	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-126	Historic	military ration cans, glass jar	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-127	Historic	sanitary cans	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-129	Historic	sardine can, sanitary cans, glass Coke bottles with maker's marks [1938 and 1941]	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-130	Historic	military ration cans, aluminum soft-top beer can, glass bottles with maker's marks [1952 and 1948]	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-131	Historic	military ration cans	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-132	Historic	military ration cans	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-133	Historic	military ration cans, hearth	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-134	Historic	military ration cans, amber bottle glass	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-135	Historic	military ration cans, glass bottle fragment, metal band, smoke land mine	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-136	Historic	military ration cans, brass bullet, sheet metal, glass jar (embossed with 1943 date)	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP

*These are Preliminary eligibility determinations only. The BLM will consult with all interested tribes on the PA and the Historic Property Treatment Plan process in order to validate final eligibility determinations

Solar Millennium Blythe Solar Power Project

Site Designation	Cultural Context	Site Taxonomy	Location within Project APE	Geomorphic Landform	Potential for Buried Deposits Based on Geomorphologic Landform	AECOM Eligibility Recommendation*
SMB-H-137	Historic	military ration cans, wooden lathe, survey marker (dated 1917)	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-138	Historic	military ration cans	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-139	Historic	military ration cans, other cans	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-140	Historic	military ration cans, military mess-kit spoon, bullet shells, lathe	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-143	Historic	key-wind meat can, other sanitary cans, milled lumber, well head	Phase 1b	Alluvial fan	Moderate	Not eligible for the CRHR or NRHP
SMB-H-144	Historic	military ration cans, hole-in-cap cans	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-145	Historic	church-key-opened can, hole-in-cap can, glass bottles with Anchor Hocking marks [after 1938]	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-147	Historic	military ration cans, aluminum soft-top beer can	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-148	Historic	military ration cans, hole-in-cap can, other sanitary cans	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-151	Historic	military ration cans, other rotary-opened food cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-152	Historic	military ration cans, rotary-opened food cans, key-wind meat can	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-153	Historic	tapered meat can, other cans, metal bracket with military-style coating	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-154	Historic	military ration cans, butchered bone, boot sole, flat glass fragment, knife-punctured solder-dot cans	Phase 1a and 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-155	Historic	military ration cans, glass jar, wooden lathe and plank, embossed sheet metal	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-156	Historic	military soluble coffee can, military ration cans, church-key-opened cans, glass bottles, aluminum soft-top beer can	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-157	Historic	garbage can lid (embossed with 1942 date), evaporated milk can, military ration can	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-158	Historic	military ration cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-159	Historic	military ration cans, key-wind meat can, baking powder can	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP

*These are Preliminary eligibility determinations only. The BLM will consult with all interested tribes on the PA and the Historic Property Treatment Plan process in order to validate final eligibility determinations

Solar Millennium Blythe Solar Power Project

Site Designation	Cultural Context	Site Taxonomy	Location within Project APE	Geomorphic Landform	Potential for Buried Deposits Based on Geomorphologic Landform	AECOM Eligibility Recommendation*
SMB-P-160	Prehistoric	lithic reduction flakes	Phase 2	Alluvial fan	Moderate	Unevaluated
SMB-H-161	Historic	hole-in-cap cans, key-wind meat can, metal band	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-162	Historic	military ration cans, glass jug fragments with Duraglas mark [after 1940, possibly 1942]	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-163	Historic	military ration cans, auto parts, metal wire, fortified positions	Phase 2	Alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-164	Historic	baking powder can, hole-in-top milk can, military ration cans, metal post, band, and wire, hearth, glass bottles and fragments with maker's marks [1958 and after 1929]	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-165	Historic	military ration cans, key-wind meat cans, church-key-opened beer cans	Phase 1b and 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-166	Historic	hole-in-cap cans, key-wind meat can, X-cut can, glass jar	Phase 1a and 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-167	Historic	military ration cans, fuel can, metal bucket, smoke mine, hole-in-cap can, key-wind meat can, X-cut can, glass bottles	Phase 1a and 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-168	Historic	military ration cans, key-wind meat can, ceramic fragment, glass bottle fragments, glass stemware, miscellaneous metal	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-169	Historic	military ration cans, hole-in-cap cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-170	Historic	sanitary can, rock ring hearth with charcoal fragments	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-171	Historic	military ration cans, oil and fuel cans, mess-kit spoon embossed with "U.S.", glass bottles	Phase 2	Alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-173	Historic	hole-in-cap can, key-wind meat can, other food cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-175	Historic	military ration cans, glass fragments, hearth	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-176	Historic	cans, metal wire, metal bar, wood pile, hearth	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-177	Historic	church-key-opened beer cans, sardine can, milk cans, other sanitary cans, aluminum soft-top beer cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP

*These are Preliminary eligibility determinations only. The BLM will consult with all interested tribes on the PA and the Historic Property Treatment Plan process in order to validate final eligibility determinations

Solar Millennium Blythe Solar Power Project

Site Designation	Cultural Context	Site Taxonomy	Location within Project APE	Geomorphic Landform	Potential for Buried Deposits Based on Geomorphologic Landform	AECOM Eligibility Recommendation*
SMB-H-178	Historic	hundreds of cans, propane tank, jack, vehicle tire, hack saw, rock alignment, glass bottle with embossing [likely 1970s]	Phase 2	Alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-179	Historic	hole-in-cap cans, other sanitary cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-180	Historic	P38-opened cans, military ration cans, aluminum soft-top beer cans	Phase 1a and 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-181	Historic	hole-in-cap can, other cans, aluminum soft-top beer can, glass jar with Hazel Atlas mark [1920-1964]	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-182	Historic	military ration cans, key-wind meat can, spice can, ceramic fragments, glass jar with Hazel Atlas mark [1920-1964], glass bottle with Owens Illinois mark [1929-1954], other glass fragments	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-183	Historic	church-key-opened beer cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-184	Historic	military ration cans, hole-in-cap can, aluminum soft-top beer can	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-185	Historic	military ration cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-186	Historic	bayonet-punctured cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-189	Historic	military ration cans, church-key-opened beer cans, X-cut cans, aluminum soft-top beer cans, glass bottles with maker's marks [1932, 1942, and 1970s]	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-190	Historic	church-key-opened cans, military ration can, key-wind opened meat can, aluminum soft-top beer cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-191	Historic	bayonet-punctured cans, glass bottle with maker's mark [1858-1895], glass jar with maker's mark [1932-1942]	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-192	Historic	P38-opened cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-193	Historic	bayonet-punctured cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-194	Historic	church-key-opened cans, hole-in-cap cans, glass jar with Hazel Atlas maker's mark [1920-1964]	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP

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SMB-H-195	Historic	military ration can, other cans, glass jar, aluminum soft-top beer can	CEC buffer	Alluvial fan	Low	Unevaluated
SMB-H-197	Historic	hole-in-cap cans, fuel can, church-key-opened beer can, broken glass bottles with maker's marks [1930s to 1940s]	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-198	Historic	church-key-opened beer cans, other sanitary cans, metal pipe fragment, metal cable	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-199	Historic	oval sardine can, church-key-opened cans, aluminum soft-top beer can, other cans	Phase 2	Recent wash within the alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-200	Historic	can, munitions casing, metal wire	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-202	Historic	church-key-opened cans, hole-in-cap cans, wooden post, metal wire	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-203	Historic	cleared areas arrayed in a line, possibly aerial markers	Phase 2	Recent wash within the alluvial fan	Moderate	Not eligible for the CRHR or NRHP
SMB-H-204	Historic	key-wind meat can, fuel can, other sanitary cans	Phase 2	Recent wash within the alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-205	Historic	military ration cans, oil cans, metal wire, fortified positions, glass fragments with maker's marks [1940s and after 1916]	Phase 2	Recent wash within the alluvial fan	Moderate	Not eligible for the CRHR or NRHP
SMB-H-206	Historic	cans, metal pipe fragments, vehicle parts, glass fragments with maker's marks [1924-1968 and after 1945]	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-207	Historic	can lids, grenade spoon, shell casing, metal strapping, fortified positions	Phase 2	Alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-208	Historic	military ration cans, glass ink well, key-wind meat can, aluminum soft-top beer can	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-209	Historic	cans, cement block with post, lathe	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-210	Historic	military ration cans, milled lumber, ammunition clips, metal strapping, fortified positions	Phase 2	Recent wash within the alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-212	Historic	military ration cans and can lids	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP

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SMB-H-213	Historic	can, metal pipe fragment, metal spring and rod, glass jar with maker's mark [after 1925]	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-M-214	Multi-component	sanitary can and thermal cobble feature	Phase 2	Alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-215	Historic	military ration cans, oil can, grenade part	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-216	Historic	military-issue soluble coffee can, oil cans, P38-opened cans, wire, miscellaneous metal, glass fragments with maker's marks [1940s and 1939-1957]	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-218	Historic	automobile parts, metal, wire, hearth	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-219	Historic	military ration cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-220	Historic	military ration cans, glass jar with maker's mark [1920-1963]	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-221	Historic	cans, glass bottle fragments, metal rods	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-222	Historic	military ration can lid, hearth, letters and figures created from alignments of quartz rocks	Phase 2	Alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-223	Historic	military ration cans, fortified positions	Phase 2	Alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-224	Historic	military ration cans, glass Dietz lantern globe [after 1918], glass fragments with Clorox mark [1929-1950], ceramic fragments, metal teapot, metal screen, miscellaneous metal wire, bands, and sheets	Phase 1b	Alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-226	Historic	rock ring sundial feature, cairns	CEC buffer	Alluvial fan	Low	Unevaluated
SMB-H-227	Historic	rotary-opened cans and can lids	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-P-228	Prehistoric	quartzite flakes, hammerstone	Phase 1b	Alluvial fan	Moderate	Unevaluated
SMB-H-229	Historic	military ration can, paint can, aluminum soft-top beverage cans	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP

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SMB-H-230	Historic	military ration cans	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-231	Historic	key-wind-opened sardine can, rotary-opened cans	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-232	Historic	military ration cans, can lids, glass bottle with Anchor Hocking mark [after 1938]	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-233	Historic	military ration cans	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-234	Historic	military ration cans, aluminum soft-top beer cans, small cairn	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-235	Historic	military ration cans, metal wire, sheet metal, munitions casing	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-236	Historic	military ration cans	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-P-238	Prehistoric	flakes, flake core, hammerstone	Phase 1b	Alluvial fan	Moderate	Unevaluated
SMB-P-241	Prehistoric	flakes, hammerstone, cairn	Phase 1b	Alluvial fan	Moderate to High	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-243	Historic	military ration cans, bottle crown cap, metal wire, hearth	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-P-244	Prehistoric	flakes, hammerstones, flake core	Phase 1b	Alluvial fan	Moderate	Unevaluated
SMB-H-245	Historic	military ration cans, hearth, rock features	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-246	Historic	fuel cans, other food cans, glass jar with Duraglas mark [1942]	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-247	Historic	probable tent pads, military ration can	Phase 1b	Alluvial fan	Moderate	Not eligible for the CRHR or NRHP
SMB-H-248	Historic	milk can, church-key opened beer can, P38-opened can, other cans	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-P-249	Prehistoric	flakes, hammerstone	Phase 1b	Alluvial fan	Moderate	Unevaluated
SMB-H-250	Historic	circular cleared area	Phase 1b	Alluvial fan	Moderate	Not eligible for the CRHR or NRHP
SMB-H-251	Historic	circular cleared areas	Phase 1b	Alluvial fan	Moderate	Not eligible for the CRHR or NRHP
SMB-P-252	Prehistoric	flakes, hammerstones	Phase 1b	Alluvial fan	Moderate	Unevaluated

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SMB-H-255	Historic	sardine can, church-key-opened beer cans, other cans, aluminum soft-top beer can	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-256	Historic	ration cans, military-issue soluble coffee cans, medicine bottle, cut lumber	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-257	Historic	ration cans, other possible military cans	Phase 1a	Alluvial fan	Low	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-258	Historic	church-key-opened beer can, military ration can, glass bottle	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-259	Historic	church-key-opened beer cans, aluminum soft-top beer cans, glass bottle fragments	Phase 1a	Alluvial fan	Low	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-260	Historic	hole-in-cap milk cans, other cans glass jar with Hazel Atlas mark [1920-1964], glass fragments with maker's marks [1932-1942 and after 1912]	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-M-261 (262)	Multi-component	key-wind opened meat can, vertical-pocket tobacco tin with hinged lid, military ration cans, milled lumber, glass bottles with Anchor Hocking mark [after 1938], cinder blocks, metal pipe, glass, historic hearth, and sparse lithics (prehistoric)	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-263	Historic	hole-in-cap can, key-wind-opened sardine can, military ration can, can lid	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-265	Historic	military ration cans, other cans, glass fragments with Owens Illinois mark [1941]	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-283	Historic	cans, glass bottle with maker's mark [1935 or 1945]	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-284	Historic	baking powder can, other cans	Phase 2	Recent wash within the alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-285	Historic	fortified position	Phase 2	Alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-286	Historic	can, fortified position	Phase 2	Alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP

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SMB-H-287	Historic	car parts, glass fragments	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-288	Historic	car parts, clock parts, gasket	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-290	Historic	P38-opened cans, hole-in-cap can, church-key-opened cans, other cans	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-291	Historic	hole-in-cap cans, church-key-opened cans, bayonet-opened cans, aluminum soft-top beer cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-401	Historic	food cans, vertical-pocket tobacco tin with hinged lid	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-402	Historic	hole-in-cap cans	Phase 1a and 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-403	Historic	oil can dump	Phase 1b	Alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-404	Historic	stone and concrete structures, watering trough, sheet metal, metal pipes, vehicle parts, metal chicken wire, cans, milled lumber, glass fragments, miscellaneous debris	Phase 1b	Alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-406	Historic	sanitary cans, tobacco can with hinged lid, wood pile, cluster of quartz rocks	Phase 1a and 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-407	Historic	church-key-opened beer can, milled lumber, can reused as pail, one isolated lithic flake	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-408	Historic	food cans, saw-cut faunal bone, possible hearth	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-409	Historic	sanitary cans, tobacco can with hinged lid, glass soda bottle (embossed with 1938 date)	Phase 1a and 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-P-410	Prehistoric	north-south running trail segment (200 meters long)	Phase 2	Alluvial fan	Low	potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-411	Historic	cleared linear feature, possibly an aerial marker	Phase 2	Alluvial fan	Moderate	Not eligible for the CRHR or NRHP
SMB-H-413	Historic	cans, glass jars, glass fragment with unclear Owens Illinois mark	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-414	Historic	key-wind meat can, metal wire, wood pile	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP

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SMB-H-415	Historic	P38-opened cans, hole-in-cap cans, vertical-pocket tobacco tin, sun-colored amethyst glass fragments	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-416	Historic	military ration cans, wooden ramp	Phase 1b and 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-417	Historic	oil cans, food cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-418	Historic	tobacco can with hinged lid, glass bottle with Heinz mark [after 1888], hearth containing one tested cobble (collected historically)	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-419	Historic	military ration cans, plate glass fragments, metal wire, metal nail and sundry hardware, bullet clips, wooden ramp	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-420	Historic	oval sardine can, milk cans, milled lumber	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-423	Historic	aircraft parts, military ration cans, aluminum soft-top beer cans	Phase 2	Alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-424	Historic	military ration cans, military soluble coffee can, fuel can, glass jar, lathe, aluminum soft-top beer can	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-426	Historic	knife-cut cans, modern glass bottle	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-427	Historic	military ration can dump, munitions casing, oil cans, glass fragments with Owens Illinois mark [ca. 1939]	Phase 2	Alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-430	Historic	hundreds of church-key-opened cans, glass bottles, glass jug, glass fragments, metal bands; glass artifacts with maker's marks [after 1968, after 1945, and after 1912]	CEC buffer	Alluvial fan	Low	Unevaluated
SMB-H-432	Historic	church-key-opened can, concrete foundation	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-P-434	Prehistoric	concentrations of fire-affected cobbles	Phase 1b	Alluvial fan	Moderate to High	Potentially eligible under CRHR Criterion 4 and unevaluated under NRHP
SMB-P-436	Prehistoric	concentrations of fire-affected cobbles	Phase 1b	Alluvial fan	Moderate to High	Potentially eligible under CRHR Criterion 4 and unevaluated under NRHP

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SMB-P-437	Prehistoric	concentration of fire-affected cobbles	Phase 1b	Alluvial fan	Moderate to High	Potentially eligible under CRHR Criterion 4 and unevaluated under NRHP
SMB-P-438	Prehistoric	concentration of fire-affected cobbles	Phase 1b	Alluvial fan	Moderate to High	Potentially eligible under CRHR Criterion 4 and unevaluated under NRHP
SMB-H-439	Historic	military ration cans	Phase 1b and 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-P-440	Prehistoric	concentration of fire-affected cobbles	Phase 2	Alluvial fan	Moderate to High	Potentially eligible under CRHR Criterion 4 and unevaluated under NRHP
SMB-P-441	Prehistoric	concentrations of fire-affected cobbles	Phase 2	Alluvial fan	Moderate to High	Potentially eligible under CRHR Criterion 4 and unevaluated under NRHP
SMB-H-442	Historic	military ration cans, vertical-pocket tobacco tin with hinged lid, pail handle, glass bottles	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-P-445	Prehistoric	flakes, flake cores, tested cobbles, thermal cobble feature, cleared circles	Phase 1a	Pleistocene alluvial deposits	Moderate to High	Potentially eligible under CRHR Criterion 4 and unevaluated under NRHP
SMB-H-447	Historic	Coors beer can, hole-in-cap cans, other food cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-450	Historic	military ration cans, glass jar with non-diagnostic portion of Ball mark	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-460	Historic	military ration cans, fuel cans, sardine can, braided wire	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-505	Historic	church-key-opened beer can, key-wind meat can, tobacco can with hinged lid, glass jar, glass bottles, ceramic fragment	CEC buffer	Alluvial fan	Low	Unevaluated
SMB-H-507	Historic	hole-in-cap can, military ration can, aluminum soft-top beer cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-508	Historic	aluminum soft-top beer cans, other food can	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-509	Historic	military ration can, other cans, glass jar with Duraglas mark [after 1940, possibly 1942]	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP

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SMB-H-513	Historic	key-wind meat can, hole-in-cap can, aluminum soft-top beer can	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-514	Historic	sanitary cans, milled lumber, metal wire and nails, cinder blocks, wooden-frame structure, outhouse, rock feature	Phase 2	Alluvial fan	Moderate	Potentially eligible under CRHR Criterion 4 and unevaluated under NRHP
SMB-M-522 (525)	Multi-component	hundreds of cans and lids, church-key-opened and aluminum soft-top beer cans, military ration cans, bottle caps, milled lumber, cable, scrap metal, lantern, buckets, metal conduit, washing basin, bed frame, car seat, wire, bricks, metal lock, license plate, and sparse lithics (prehistoric)	Phase 1a and 1b	Alluvial fan	Low	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-527	Historic	military ration cans, church-key-opened beer can, hole-in-cap can, aluminum soft-top beer can	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-528	Historic	military ration cans	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-529	Historic	military ration cans, milled lumber	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-P-530	Prehistoric	quartz flakes and flake cores	Phase 2	Alluvial fan	Moderate	Unevaluated for the CRHR or NRHP
SMB-P-531	Prehistoric	quartz flakes and flake cores	Phase 1b	Alluvial fan	Moderate	Unevaluated for the CRHR or NRHP
SMB-P-532	Prehistoric	quartz flakes and flake cores	Phase 1b	Alluvial fan	Moderate	Unevaluated for the CRHR or NRHP
SMB-H-600	Historic	unnamed dirt two-track road and narrow-gauge pipeline running north-south from I-10 to Arlington Mine Road	Phase 1a, 1b, and 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-601	Historic	dirt two-track road, currently named Mesa Drive, running north-south along a 1917 USGS survey section line from Blythe Army Air Base to an unnamed road south of the McCoy Wash	Phase 1a, 1b, and 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-702	Historic	key-wind military ration cans, other cans, friction-lid coffee can	Phase 1b	Aeolian sand	Low	Not eligible for the CRHR or NRHP
SMB-H-824	Historic	Historical-period refuse scatter	CEC buffer	Alluvial fan	Low	Unevaluated
SMB-H-860	Historic	Historical-period refuse scatter	CEC buffer	Alluvial fan	Low	Unevaluated
SMB-H-861	Historic	Historical-period refuse scatter and fortified positions	Phase 1a	Alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP

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SMP-P-944	Prehistoric	Lithic scatter	CEC buffer	Alluvial fan	Low to Moderate	Unevaluated
SMB-P-946	Prehistoric	Lithic scatter	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-P-947	Prehistoric	Lithic scatter	Phase 2	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-M-CT-001	Multi-component	Lithic scatter with historical-period refuse scatter	Phase 1a	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-CT-003	Historic	Historical-period hearths and tent pad	CEC buffer	Alluvial fan	Low to Moderate	Unevaluated
SMB-H-JR-101	Historic	Historical-period refuse scatter	CEC buffer	Alluvial fan	Low	Unevaluated
SMB-H-LK-101	Historic	Historical-period refuse dump	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-LK-105	Historic	Historical-period refuse scatter	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-LK-106	Historic	Historical-period refuse dump	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-MT-002	Historic	Historical-period homestead and multiple feature types	Phase 1a	Alluvial fan	Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-H-MT-104	Historic	Transmission line	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-TC-102	Historic	Historical-period refuse scatter	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-M-TC-103	Multi-component	Lithic isolate with historical-period refuse scatter	CEC buffer	Alluvial fan	Low	Unevaluated
SMB-H-TC-104	Historic	Historical-period refuse scatter	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-H-WG-101	Historic	Historical-period refuse scatter	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-M-806	Multi-component	Lithic and ceramic isolates with historical-period refuse scatter	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP

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SMB-M-825	Multi-component	Lithic scatter with historical-period refuse scatter and hearth	Phase 1b	Alluvial fan	Low to Moderate	Historic component not eligible for the CRHR or NRHP. Prehistoric component recommended eligible under CRHR Criterion 4 and unevaluated for NRHP
SMB-M-LK-102	Multi-component	Lithic scatter with historical-period refuse scatter	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP
SMB-M-LK-103	Multi-component	Lithic scatter with historical-period refuse scatter and possible privy	Phase 1b	Alluvial fan	Low to Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-M-LK-104	Multi-component	Lithic scatter with fortified positions	Phase 1b	Alluvial fan	Low to Moderate	Potentially eligible under CRHR Criteria 1 and 4 and unevaluated under NRHP
SMB-M-WG-102	Multi-component	Pot drop with historical-period refuse scatter	Phase 1b	Alluvial fan	Low	Not eligible for the CRHR or NRHP

*These are Preliminary eligibility determinations only. The BLM will consult with all interested tribes on the PA and the Historic Property Treatment Plan process in order to validate final eligibility determinations

APPENDIX E

Paleontological Resources

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Paleontological Resources Assessment for the Blythe Solar Power Project, Riverside County, California

Prepared for

AECOM Environment

On behalf of:

Solar Millennium, LLC

and

Chevron Energy Solutions

Prepared by

SWCA Environmental Consultants
Pasadena Office
August 2009

PALEONTOLOGICAL RESOURCES ASSESSMENT FOR THE BLYTHE SOLAR POWER PROJECT RIVERSIDE COUNTY, CALIFORNIA

SWCA PROJECT NUMBER 15415

SUBMITTED TO:
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Cara Corsetti, Qualified Paleontologist and SWCA Program Director – Paleontology

PROJECT SUMMARY

PURPOSE AND SCOPE

SWCA Environmental Consultants was retained by AECOM Environment to conduct paleontological resources management services for the Blythe Solar Power Project (BSPP or Project) located north of I-10 approximately 8 miles west of Blythe in Riverside County, California. Solar Millennium, LLC and Chevron Energy Solutions (Applicants) propose to develop a nominal 500 megawatt (MW) solar thermal electric generating facility on public lands managed by the Bureau of Land Management (BLM). The BSPP comes under the jurisdiction of both the California Energy Commission (CEC) and BLM and the two agencies are conducting a joint review of the Project. The paleontological studies documented in this report are intended to support CEC compliance with the requirements of the California Environmental Quality Act (CEQA) and BLM's compliance with the National Environmental Policy Act (NEPA); a combined CEQA/NEPA document will be prepared jointly by the two agencies.

The Project will require a 500 kV transmission line to interconnect its electrical output with the regional transmission system, but the route of this transmission line has not yet been finalized. For that reason no paleontological investigation of a transmission route for the BSPP has been performed yet. When the route is finalized, the necessary paleontological investigation and impact assessment will be performed and the results reported to the regulatory agencies and other stakeholders.

The paleontological resources scope of services included (1) a comprehensive museum records search and literature review, (2) a paleontological field survey, and (3) preparation of this technical report of findings that includes recommended mitigation measures.

DATES OF INVESTIGATION

The museum records searches were performed between May 7 and June 17, 2009. The paleontological reconnaissance survey of the proposed project site was performed June 2 through June 20, 2009. This technical report was completed in August 2009.

RESULTS OF THE INVESTIGATION

According to geologic mapping by Jennings (1967) and Stone (2006), the BSPP project site is mostly underlain by Quaternary to Tertiary age alluvial and fluvial deposits ranging from Pliocene (greater than 10,000 years before present [BP]), Pleistocene (1.8 million years old [Ma] to 10,000 years before present [BP]) and Holocene (10,000 years BP to Recent) in age (Figure 2). In addition, a small outcropping of the McCoy Mountains Formation, Cretaceous in age, occurs in the far southwestern portion of the project site. Museum collections records maintained by the Natural History Museum of Los Angeles County (LACM), the San Bernardino County Museum (SBCM), and the Colorado Desert District Stout Research Center (CDDSRC) indicate that no previously recorded fossil localities exist within the plant site boundaries nor have any fossil localities been previously recorded within one mile of these boundaries. However, numerous vertebrate fossil localities have been recorded throughout the region within the same or similar sedimentary deposits that occur within the Project boundaries.

No significant fossils were discovered during the field survey; however, a total of thirty-seven non-significant fossil occurrences and sixty-four non-significant fossil points yielding non-diagnostic fossils materials were recorded. The non-significant fossil occurrences consisted of petrified wood mostly likely transported in as lag deposits from nearby Jurassic and Cretaceous age units (McCoy Mountains Formation or equivalent). None of these specimens were collected. Of the thirty-seven non-significant fossil points discovered, the vast majority yielded turtle shell fragments that could not be placed in a taxonomic class any higher than the order Testudines (turtles). Approximately eight vertebrate specimens consisted of unidentifiable fragmented bone classified as Mammalian. Two invertebrate specimens, consisting of a crinoid and bivalve, were also documented and collected. All specimens were discovered *ex-situ* (removed from their original place of fossilization) as lag deposits occurring on top of alluvial sediments.

The combined results of the museum records searches, literature review, and field survey indicate that geologic units underlying the Project area have a paleontological sensitivity ranging from low to high. Therefore, construction of the BSPP may potentially result in an adverse impact to non-renewable fossil resources and will require implementation of paleontological resources mitigation measures to reduce such impacts to a less than significant level.

RECOMMENDATIONS

SWCA recommends that a qualified paleontologist be retained to design and implement a paleontological resources monitoring and mitigation plan (PRMMP) for regulatory agency approval and subsequent implementation during any ground disturbances related to the proposed Project. All significant fossils recovered during construction monitoring should be prepared, stabilized, identified, and permanently curated in an approved repository or museum such as the SBCM. As was the case for the investigation reported in this document, all future paleontological field work for the BSPP would require a Paleontological Resources Use Permit issued by the Bureau of Land Management (BLM) and Field Authorization issued by the local BLM Field Office.

DISPOSITION OF DATA

This report will be filed with AECOM Environment, the Applicants, the California Energy Commission, the BLM California State Office, and the SBCM. All vertebrate fossil specimens discovered during the course of the field survey will be transferred to the SBCM for permanent curation. A copy of the report will be retained at SWCA Environmental Consultants, along with maps, field notes, photographs, and all other records relating to the Project.

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INTRODUCTION

This report presents the findings of a comprehensive literature review, museum records search, and pedestrian field survey conducted for the Blythe Solar Power Project (BSPP) located north of I-10 approximately 8 miles northwest of the City of Blythe, Riverside County, California. Solar Millennium, LLC and Chevron Energy Solutions (the Applicants) propose to develop a nominal 500 megawatt (MW) solar thermal electric generating facility on public lands managed by the BLM. The PSPP comes under the jurisdiction of both the CEC and BLM and the two agencies are conducting a joint review of the Project. This paleontological studies documented in this report are intended to support CEC compliance with the requirements of the CEQA and BLM's compliance with the NEPA; a combined CEQA/NEPA document will be prepared jointly by the two agencies.

The Project will require a 500 kV transmission line to interconnect its output with the regional transmission system, but the route of this transmission has not yet been finalized. For that reason no paleontological investigation of a transmission route for the PSPP has been performed to date. When the route is finalized, the necessary paleontological investigation and impact assessment will be performed and the results reported to the regulatory agencies and other stakeholders.

This study was performed to evaluate the paleontological sensitivity of the Project area and vicinity, assess potential Project-related impacts on paleontological resources, and provide recommendations for the management of paleontological resources. This study was conducted in accordance with the professional guidelines established by the Society of Vertebrate Paleontology (SVP) (1995) and paleontological guidelines set for by the BLM (2008). This study also satisfies the requirements set forth by the CEC (2000, 2007).

DEFINITION AND SIGNIFICANCE OF PALEONTOLOGICAL RESOURCES

Paleontology is a multidisciplinary science that combines elements of geology, biology, chemistry, and physics in an effort to understand the history of life on earth. Paleontological resources, or fossils, are the remains, imprints, or traces of once-living organisms preserved in rocks and sediments. These include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains. The fossil record is the only evidence that life on earth has existed for more than 3.6 billion years. Fossils are considered nonrenewable resources because the organisms they represent no longer exist (Murphey and Daitch, 2007). Thus, once destroyed, a fossil can never be replaced. Fossils are an important scientific and educational resource because they are used to:

- Study the phylogenetic relationships between extinct organisms, as well as their relationships to modern groups.
- Elucidate the taphonomic, behavioral, temporal, and diagenetic pathways responsible for fossil preservation, including biases in the fossil record.
- Reconstruct ancient environments, climate change, and paleoecological relationships.
- Provide a measure of relative geologic dating, which forms the basis for biochronology and biostratigraphy, and which is an independent and supporting line of evidence for isotopic dating.
- Study the geographic distribution of organisms and tectonic movements of land masses and ocean basins through time.
- Study patterns and processes of evolution, extinction, and speciation.
- Identify past and potential future human-caused effects to global environments and climates (Murphey and Daitch, 2007).

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

Fossils are classified as nonrenewable scientific resources and are protected by various laws, ordinances, regulations, and standards (LORS) across the country. The SVP (1995) has established professional standards for the assessment and mitigation of adverse impacts to paleontological resources. This paleontological assessment was conducted in accordance with the LORS that are applicable to paleontological resources within the Project area. These LORS are summarized in Table 1 and the following sections.

FEDERAL

Fossils are classified as non-renewable scientific resources and are protected by various laws, ordinances, regulations, and standards (LORS) across the country. Professional standards for the assessment and mitigation of adverse impacts on paleontological resources have been established by the Society of Vertebrate Paleontology (SVP) (1995, 1996). Federal protections for scientifically significant paleontological resources apply to projects if any construction or other related project impacts occur on federally owned or managed lands, involve the crossing of state lines, or are federally funded. Since the BSPP site is located entirely within federally managed land, then federal protections would apply to paleontological resources within the Project boundaries. Pertinent federal LORS are summarized below.

National Environmental Policy Act

The National Environmental Policy Act of 1969, as amended (Pub. L. 91-190, 42 USC 4321-4347, January 1, 1970, as amended by Pub. L. 94-52, July 3, 1975, Pub. L. 94-83, August 9, 1975, and Pub. L. 97-258 § 4(b), Sept. 13, 1982). NEPA recognizes the continuing responsibility of the Federal Government to "preserve important historic, cultural, and natural aspects of our national heritage..." (Sec. 101 [42 USC § 4321]) (#382).

The goal of the NEPA process is to make informed, publicly supported decisions regarding environmental issues. Under NEPA, the Federal Government requires that:

a) all federal agencies consider the environmental impacts of proposed actions;
b) the public be informed of the potential environmental impacts of proposed actions; and
c) that the public be involved in planning and analysis relevant to actions that impact the environment.

Paleontological Resources Preservation Act

In March 2009, the Paleontological Resources Preservation Act (PRPA) was enacted as a result of the passage of the Omnibus Public Lands Management Act (OPLA) of 2009, Public Law 111-011. P.L. 111-011, Title VI, *Subtitle D. Paleontological Resources Preservation.* The PRPA sets forth regulations and provisions pertaining to paleontological resources on all federally administered lands. The PRPA affirms the authority of BLM policies already in place and is consistent with paleontological guidelines outlined in the Paleontology Resources Management Manual and Handbook H-8270-1 (BLM, revised 2008). As a result of the recent enactment of the PRPA, Federal agencies will begin developing appropriate plans for the management of paleontological resources and the implementation of the PRPA.

Federal Land Management and Policy Act

Federal Land Management and Policy Act of 1976 (43 USC 1712[c], 1732[b]); sec. 2, Federal Land Management and Policy Act of 1962 [30 USC 611]; Subpart 3631.0 et seq.), Federal Register Vol. 47, No. 159, 1982. The FLMPA does not refer specifically to fossils. However, "significant fossils" are understood and recognized in policy as scientific resources. Permits which authorize the collection of significant fossils for scientific purposes are issued under the authority of FLMPA.

Under FLMPA, federal agencies are charged to:

a) manage public lands in a manner that protects the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, archaeological, and water resources, and, where appropriate, preserve and protect certain public lands in their natural condition (Section 102[a][8] [11]);
b) periodically inventory public lands so that the data can be used to make informed land-use decisions (Section 102[a][2]); and
c) regulate the use and development of public lands and resources through easements, licenses, and permits (Section 302[b]).

American Antiquities Act of 1906 1 (6 USC 431 433)

Establishes a penalty for disturbing or excavating any historic or prehistoric ruin or monument or object of antiquity on federal lands as a maximum fine of $500 or 90 days in jail.

National Historic Preservation Act of 1966

Provides for the survey, recovery, and preservation of significant paleontological data when such data may be destroyed or lost due to a federal, federally licensed, or federally funded project. (Pub. L. 89 665; 80 Stat. 915, 16 U.S.C. 470 et seq.)

Code of Federal Regulations Title 43

Under the Code of Federal Regulations (CFR) Title 43, Section 8365.1-5, the collection of scientific resources, including vertebrate fossils, is prohibited without a permit. Except where prohibited, individuals are also authorized to collect some fossils for their personal use. The use of fossils found on federal lands for commercial purposes is also prohibited.

Department of the Interior Report- Fossils on Federal and Indian Lands

In 2000, the Secretary of the Interior submitted a report to Congress entitled "Assessment of Fossil Management on Federal and Indian Lands." This report was prepared with the assistance of eight federal agencies including the Bureau of Indian Affairs, the BLM, the Bureau of Reclamation, the United States Fish and Wildlife Service, the United States Forest Service (USFS), the National Park Service, the U.S. Geological Survey (USGS), and the Smithsonian Institution. The consulting agencies concluded that administrative and Congressional actions with respect to fossils should be governed by these seven basic principles:

a) Fossils on federal land are a part of America's heritage.
b) Most vertebrate fossils are rare.

c) Some invertebrate and plant fossils are rare.

d) Penalties for fossil theft should be strengthened.

e) Effective stewardship requires accurate information.

f) Federal fossil collections should be preserved and available for research and public education.

g) Federal fossil management should emphasize opportunities for public involvement.

STATE

With regard to paleontological resources, the CEC environmental review process under the Warren-Alquist Act is considered functionally equivalent to that of the California Environmental Quality Act (CEQA, Public Resources Code Sections 15000 et seq.). Guidelines for the Implementation of CEQA, as amended March 29, 1999 (Title 14, Chapter 3, California Code of Regulations: 15000 et seq.) define procedures, types of activities, persons, and public agencies required to comply with CEQA, and include as one of the questions to be answered in the Environmental Checklist (Section 15023, Appendix G, Section XIV, Part a) the following: "*Will the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*"

Other state requirements for paleontological resources management are included in the Public Resources Code (Chapter 1.7), Section 5097.5 and 30244. These statutes prohibit the removal of any paleontological site or feature on public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state) lands. These protections would apply to the proposed project only if the state or a state agency were to obtain ownership of project lands during the term of the project license.

LOCAL

Paleontological resources are addressed in the Multipurpose Open Space Element of the County of Riverside General Plan (adoption October 7, 2003). The following policies provide direction for paleontological resources:

> OS 19.8 "Whenever existing information indicated that a site proposed for development may contain biological, paleontological, or other scientific resources, a report shall be filed stating the extent and potential significance of the resources that may exist within the proposed development and appropriate measures through which the impacts of development may be mitigated."
>
> OS 19.9 "This policy requires that when existing information indicates that a site proposed for development may contain paleontological resources, a paleontologist shall monitor grading activities, with the authority to halt grading to collect uncovered paleontological resources, curate any resources collected with an appropriate repository, and file a report with the Planning Department documenting any paleontological resources that are found during the course of site grading."

> OS 19.10 "Transmit significant development applications subject to CEQA to the San Bernardino County Museum for review, comment, and/or preparation of recommended conditions of approval with regard to paleontological resources."

Table 1. Summary of Paleontological LORS Applicable to the Project

Jurisdiction	Pertinent Paleontological LORS
Federal	NEPA
	PRPA
	FLMPA
	American Antiquities Act of 1906
	National Historic Preservation Act of 1966
	Code of Federal Regulations Title 43
	Department of Interior-Fossils on Federal and Indian Lands
State	CEQA
County	Riverside County General Plan

PROFESSIONAL STANDARDS

The SVP has established standard guidelines (SVP, 1995) that outline professional protocols and practices for the conducting of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Typically, state regulatory agencies with paleontological LORS accept and utilize the professional standards set forth by the SVP.

As defined by the SVP (1995:26), significant nonrenewable paleontological resources are defined as:

> …Fossils and fossiliferous deposits here restricted to vertebrate fossils and their taphonomic and associated environmental indicators. This definition excludes invertebrate or paleobotanical fossils except when present within a given vertebrate assemblage. Certain invertebrate and plant fossils may be defined as significant by a project paleontologist, local paleontologist, specialists, or special interest groups, or by lead agencies or local governments.

As defined by the SVP (1995:26), significant fossiliferous deposits are defined as:

> A rock unit or formation which contains significant nonrenewable paleontologic resources, here defined as comprising one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals, e.g., trackways, or nests and middens which provide datable material and climatic information). Paleontologic resources are considered to be older than recorded history and/or older than 5,000 years, BP [before present].

Based on the significance definitions of the SVP (1995), all identifiable vertebrate fossils are considered to have significant scientific value. This position is adhered to because vertebrate fossils are relatively uncommon, and only rarely will a fossil locality yield a statistically significant number of specimens of the same genus. Therefore, every vertebrate fossil found has the potential to provide significant new information on the taxon it represents, its paleoenvironment, and/or its distribution. Furthermore, all geologic units in which vertebrate fossils have previously been found are considered to have high sensitivity. Identifiable plant and invertebrate fossils are considered significant if found in association with vertebrate fossils or if defined as significant by project paleontologists, specialists, or local government agencies.

A geologic unit known to contain significant fossils is considered to be "sensitive" to adverse impacts if there is a high probability that earth-moving or ground-disturbing activities in that rock unit will either disturb or destroy fossil remains directly or indirectly. This definition of sensitivity differs fundamentally from that for archaeological resources as follows:

> It is extremely important to distinguish between archaeological and paleontological (fossil) resource sites when defining the sensitivity of rock units. The boundaries of archaeological sites define the areal extent of the resource. Paleontologic sites, however, indicate that the containing sedimentary rock unit or formation is fossiliferous. The limits of the entire rock formation, both areal and stratigraphic, therefore define the scope of the paleontologic potential in each case. [SVP, 1995]

Many archaeological sites contain features that are visually detectable on the surface. In contrast, fossils are contained within surficial sediments or bedrock and are therefore not observable or detectable unless exposed by erosion or human activity. Monitoring by experienced paleontologists greatly increases the probability that fossils will be discovered during ground-disturbing activities and that, if these remains are significant, successful mitigation and salvage efforts may be undertaken in order to prevent adverse impacts to these resources.

BUREAU OF LAND MANAGEMENT

The BLM manages fossils for their scientific, educational, and (where appropriate) recreational values. Scientifically significant fossils, such as vertebrates and noteworthy occurrences of invertebrates and plants, may be collected by qualified individuals who have obtained Paleontological Resources Use permits from the BLM. All fossils collected under these permits must be stored and preserved in approved repositories where they can be studied or displayed. Potential adverse impacts on significant fossils are assessed and mitigated to prevent damage or lessen negative effects on the resources. The BLM inventories and monitors paleontological resources on a case-by-case basis under the guidance of Handbook H-8270-1 (2008). When notice of a proposed land use is received, the pertinent Field Office determines whether significant resources may be impacted and whether a field survey and subsequent work are necessary.

Four objectives have been identified by the BLM for the management of paleontological resources on the lands it administers. These include (1) locating, evaluating, managing, and protecting paleontological resources; (2) facilitating appropriate scientific, educational, and recreational uses of paleontological resources; (3) ensuring that proposed land uses do not inadvertently damage or destroy important paleontological resources; and (4) fostering public awareness of the Nation's rich paleontological heritage. The BLM considers vertebrate fossils to be scientifically significant, while invertebrate and plant fossils may be deemed scientifically significant on a case-by-case basis. Fossilized wood is considered a mineral resource, and may be collected or purchased under the Material Sales Act of 1947 (as amended), but cannot be obtained under the General Mining Law of 1872.

RESOURCE ASSESSMENT GUIDELINES

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value and are afforded protection under federal (National Environmental Policy Act, or NEPA), state (California Environmental Quality Act, or CEQA), and local (County of Riverside) laws and regulations. This study satisfies project requirements in accordance with CEQA (13 PRC, 2100 et seq.) and Public Resources Code Section 5097.5 (Stats 1965, c 1136, p. 2792). This analysis also complies with guidelines and significance criteria specified by the SVP (1995) and requirements set forth by the California Energy Commission (CEC) in Appendix B, Information Requirements for an Application of the CEC's Power Plant Site Certification Regulations (CEC, 2000).

Paleontological Sensitivity

Paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. In its "Standard Guidelines for the Assessment and Mitigation of Adverse Impacts to Nonrenewable Paleontologic Resources," the SVP (1995:23) defines three categories of paleontological sensitivity (potential) for sedimentary rock units: high, low, and undetermined:

- **High Potential.** Rock units from which vertebrate or significant invertebrate fossils or suites of plant fossils have been recovered and are considered to have a high potential for containing significant nonrenewable fossiliferous resources. These units include, but are not limited to, sedimentary formations and some volcanic formations that contain significant nonrenewable paleontologic resources anywhere within their geographical extent and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical, and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas that contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways are also classified as significant.
- **Low Potential.** Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils. Such units will be poorly represented by specimens in institutional collections.
- **Undetermined Potential.** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials.

Note that highly metamorphosed rocks and granitic rock units generally do not yield fossils and therefore have low potential to yield significant nonrenewable fossiliferous resources.

In general terms, for geologic units with high potential, full-time monitoring typically is recommended during any project-related ground disturbance. For geologic units with low potential, protection or salvage efforts typically are not required. For geologic units with undetermined potential, field surveys by a qualified paleontologist are usually recommended to specifically determine the paleontologic potential of the rock units present within the study area.

PROJECT LOCATION AND DESCRIPTION

The BSPP project is located about 8 miles west of Blythe, north of I-10 in unincorporated Riverside County, California, entirely within public land (BLM right-of-way [ROW] No. CACA 48811). The project is mapped within sections 31-32 of Township 5 South, Range 22 East; sections 4-8 of Township 6 South, Range 22 East; and sections 1-5, and 8-15 of Township 6 South, Range 21 East on the McCoy Wash and McCoy Peak, CA 7.5-minute U.S. Geological Survey quadrangles.

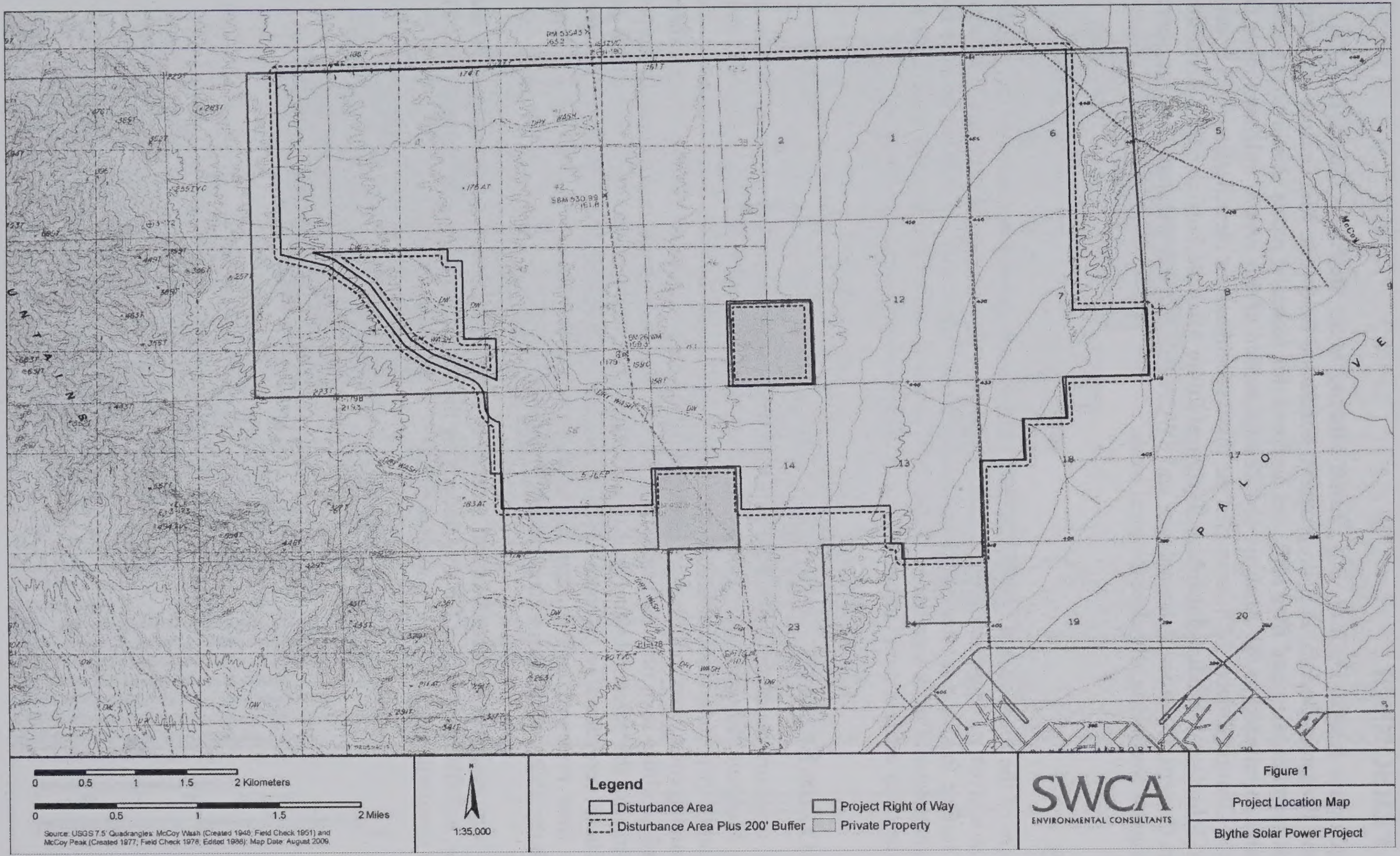
Solar Millennium, LLC and Chevron Energy Solutions (the Applicants) are proposing to construct a commercial solar thermal electric power generating project, referred to as the BSPP. The Applicant seeks to lease 9,400 acres of Federal land administered by the Bureau of Land Management (BLM), within which the area disturbed by Project construction and operation would be about 5,950 acres. The Project will utilize solar parabolic trough technology to generate electricity. With this technology, arrays of parabolic mirrors collect heat energy from the sun and refocus the radiation on a receiver tube located at the focal point of the parabola. A heat transfer fluid (HTF) is heated to high temperature (750 °F) as it circulates through the receiver tubes. The heated HTF is then piped through a series of heat exchangers where it releases its stored heat to generate high pressure steam. The steam is then fed to a traditional steam turbine generator where electricity is produced.

The Project will have a nominal output of 1000 MW, produced by four adjacent, identical and independent 250 MW units. The four power generating facilities will share a main office building, a main warehouse/maintenance building, a parking lot, onsite access roads, two bioremediation areas for HTF-contaminated soil, and a central internal switchyard. Each unit will have its own solar field, comprised of piping loops arranged in parallel groups, and its own power block, centrally located within the solar field. Each power block will have its own HTF pumping and freeze protection system, solar steam generator; steam turbine generator; an air-cooled condenser for cooling, transmission lines and related electrical system; and auxiliary equipment, e.g., emergency generators. Two water treatment systems will be provided for the four power units, each system dedicated to two of the four power units. From the onsite switchyard, a common new 500 kV transmission line will interconnect with Southern California Edison's (SCE) Devers-Palos Verde line at SCE's Colorado River Substation south of U.S. Interstate I-10 and approximately 5 miles southwest of the BSPP site.

The Project will use a gas-fired boiler for quick startup (but not for power generation), and a gas-fired heater for HTF freeze protection. Natural gas will be supplied via a new gas pipeline constructed by the Southern California Gas Company that is expected to extend south approximately two miles south of the Project's southern boundary to tie in with an existing gas line about 1,800 feet south of I-10.

All thermal power plants require cooling, which historically has involved large quantities of cooling water. The BSPP will utilize an air cooled condenser (ACC) commonly referred to as "dry cooling", thereby dramatically reducing the amount of water needed by the facility. Water will be used principally for solar mirror washing, ancillary equipment heat rejection, feedwater makeup, dust suppression, firewater supply, and onsite domestic use. Total consumption for the four units is estimated at approximately 600 acre-feet annually, supplied by onsite wells.

Project construction is scheduled to begin in late 2010 on the first unit. The construction phase to complete all four units will have an expected duration of 68 months. Commercial operation of the first unit is expected to begin in early 2013 with the fourth unit being available for commercial operation in 2016.



Source: USGS 7.5' Quadrangles: McCoy Wash (Created 1948; Field Check 1951) and McCoy Peak (Created 1977; Field Check 1978; Edited 1988); Map Date: August 2009.

Figure 1. Project Location Map

PROJECT PERSONNEL

SWCA paleontologists Jessica DeBusk, B.S., Justin Strauss, M.S., Stephanie Lukowski, M.S., Peter Kloess, B.S., and Benjamin Borkan, B.S. (in progress) conducted fieldwork. Ms. DeBusk requested the museum records searches, managed field staff, and authored this technical report. Justin Strauss directed the field staff and contributed to the Analysis and Results section of this report. Paleontologists David Daitch, Ph.D. and Georgia Knauss, M.S. examined the fossil specimens for identification. GIS Specialists Chad Flynn and John Covert produced graphics. Technical Editor Michelle Trevino edited and formatted this report. Cara Corsetti, Qualified Paleontologist and SWCA Paleontology Program Director, served as Principal Investigator overseeing all paleontological work.

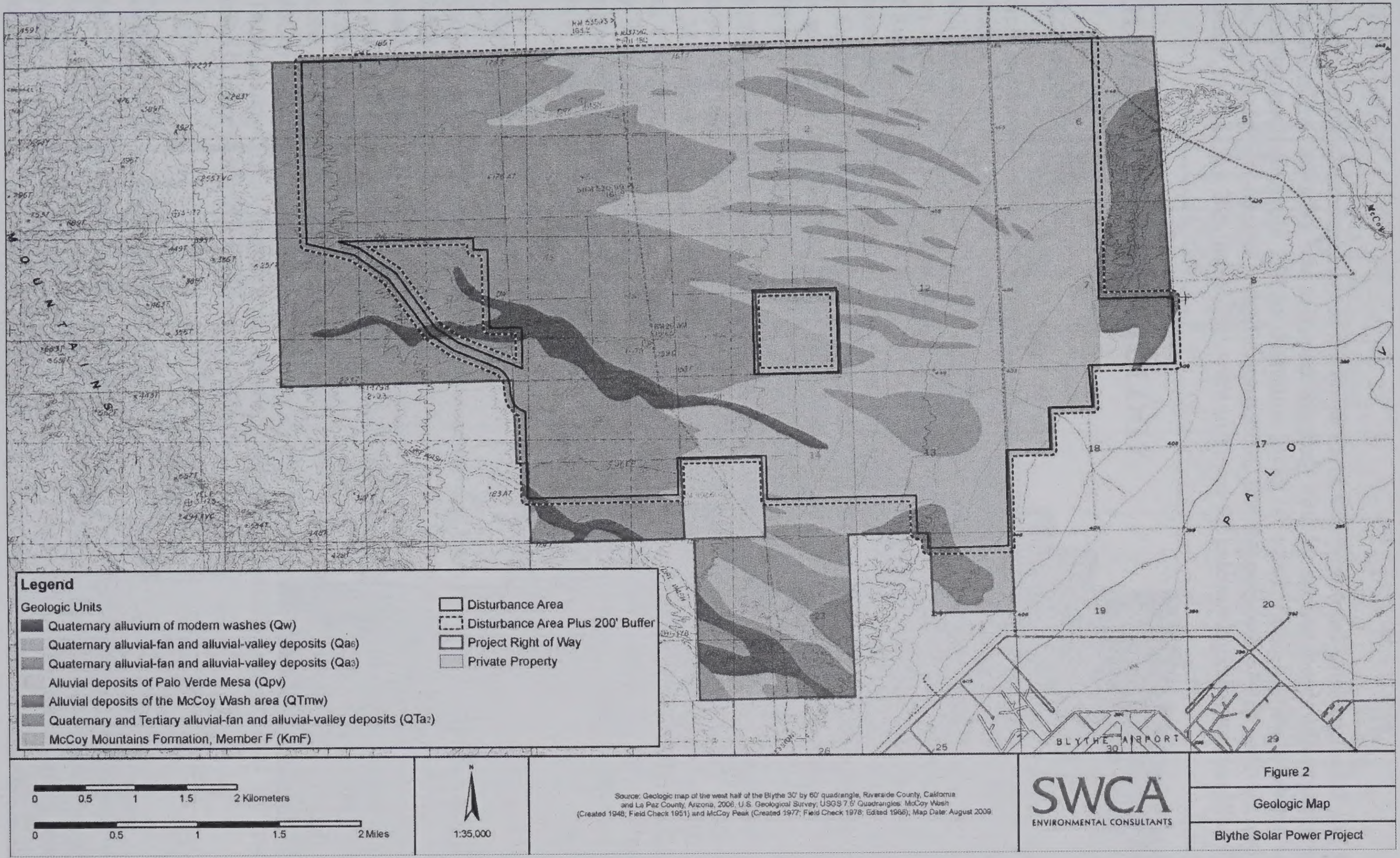
METHODS

Due to the nature of the fossil record, paleontologists cannot know either the quality or the quantity of fossils present in a given geologic unit prior to natural erosion or human-caused exposure. Therefore, in the absence of surface fossils, it is necessary to assess the sensitivity of rock units based on their known potential to produce scientifically significant fossils elsewhere within the same geologic unit (both within and outside of the study area) or a unit representative of the same depositional environment.

MUSEUM RECORDS SEARCH

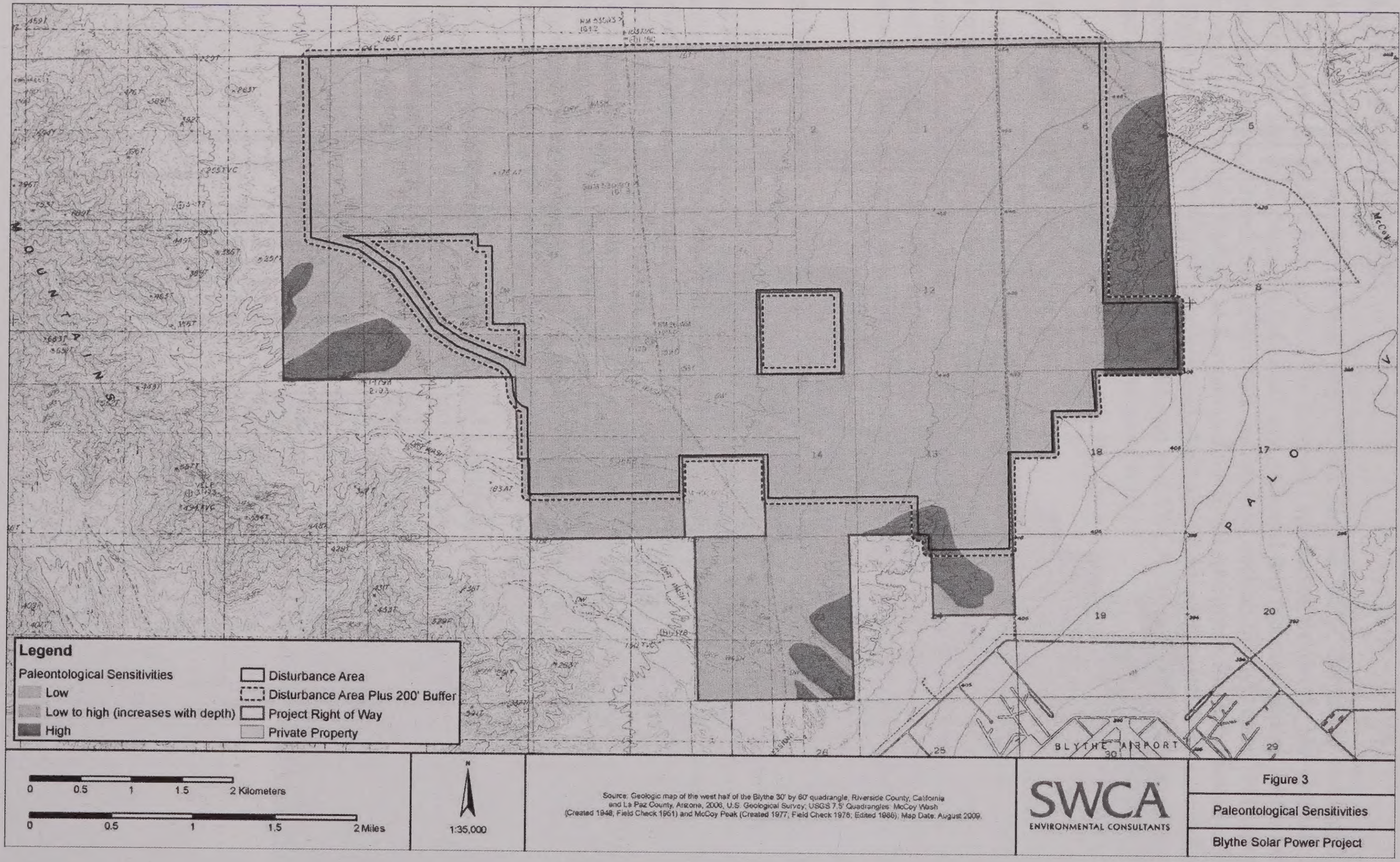
For this project, museum records searches were performed by the Vertebrate Paleontology Section of the Natural History Museum of Los Angeles County (LACM), the Department of Earth Sciences at the San Bernardino County Museum (SBCM), and the Colorado Desert District Stout Research Center (CDDSRC). Museum collections records were searched for the purposes of determining whether there are any known fossil localities in or near the project site, identifying the geologic units present in the project area, and determining the paleontological sensitivity ratings of those geologic units in order to assess potential impacts to nonrenewable paleontological resources. Published and unpublished literature and geologic maps were reviewed, and mitigation measures specific to this project were developed in accordance with the SVP's professional standards and guidelines (1995).

Geologic units were assigned a paleontological sensitivity rating based on the museum records search, literature review, and field survey. For the area underlying the Project area, geologic maps (Figure 2) and paleontological sensitivity maps (Figure 3) were created.


Legend
Geologic Units
Quaternary alluvium of modern washes (Qw)
Quaternary alluvial-fan and alluvial-valley deposits (Qa6)
Quaternary alluvial-fan and alluvial-valley deposits (Qa3)
Alluvial deposits of Palo Verde Mesa (Qpv)
Alluvial deposits of the McCoy Wash area (QTmw)
Quaternary and Tertiary alluvial-fan and alluvial-valley deposits (QTa2)
McCoy Mountains Formation, Member F (KmF)
Disturbance Area
Disturbance Area Plus 200' Buffer
Project Right of Way
Private Property
0 0.5 1 1.5 2 Kilometers
0 0.5 1 1.5 2 Miles
N
1:35,000
SWCA
ENVIRONMENTAL CONSULTANTS
Figure 2
Geologic Map
Blythe Solar Power Project
BLYTHE AIRPORT
MOUNTAINS
PALO

Source: Geologic map of the west half of the Blythe 30' by 60' quadrangle, Riverside County, California and La Paz County, Arizona, 2006, U.S. Geological Survey; USGS 7.5' Quadrangles: McCoy Wash (Created 1948; Field Check 1951) and McCoy Peak (Created 1977; Field Check 1978; Edited 1986); Map Date: August 2009

Figure 2. Geologic Map


Legend
Paleontological Sensitivities
Low
Low to high (increases with depth)
High
Disturbance Area
Disturbance Area Plus 200' Buffer
Project Right of Way
Private Property
0 0.5 1 1.5 2 Kilometers
0 0.5 1 1.5 2 Miles
N
1:35,000
SWCA ENVIRONMENTAL CONSULTANTS
Figure 3
Paleontological Sensitivities
Blythe Solar Power Project
MOUNTAINS
PALO
BLYTHE AIRPORT
McCoy

Source: Geologic map of the west half of the Blythe 30' by 60' quadrangle, Riverside County, California and La Paz County, Arizona, 2006, U.S. Geological Survey; USGS 7.5' Quadrangles: McCoy Wash (Created 1948; Field Check 1961) and McCoy Peak (Created 1977; Field Check 1978; Edited 1986); Map Date: August 2009.

Figure 3. Paleontological Sensitivity Map

FIELD METHODS

A pedestrian reconnaissance survey of the Project area was performed between June 2 and June 20, 2009. The purpose of the fieldwork was to inspect the study area for surface fossils and exposures of potentially fossil-bearing geologic units and to determine areas in which fossil-bearing geologic units could be exposed during Project-related ground disturbances. For the purposes of this analysis, only the areas of disturbance, including a 200-foot buffer, were surveyed for paleontological resources (See Figure 1).

GEOLOGY AND PALEONTOLOGY

GEOLOGIC SETTING

California is naturally divided into the following twelve geomorphic provinces, each distinguished from one another by having unique topographic features and geologic formations: (1) the Sierra Nevada, (2) the Klamath Mountains, (3) the Cascade Range, (4) the Modoc Plateau, (5) the Basin and Range, (6) the Mojave Desert, (7) the Colorado Desert, (8) the Peninsular Ranges, (9) the Transverse Ranges, (10) the Coast Ranges, (11) the Great Valley, and (12) the Offshore area. The BSPP project site is located in the northeast corner of the Colorado Desert geomorphic province. The Colorado Desert is bounded to the east by the Colorado River, to the south by the international border, and to the west by the Peninsular Ranges. Norris and Webb (1976) define the northern border as the southern edge of the eastern Transverse Ranges and the San-Bernardino- Riverside county line.

The BSPP project site is located within the McCoy Wash area of the western Colorado River flood plain and in part on the Palo Verde Mesa. The McCoy Wash area is situated in a valley southwest of the Big Maria Mountains, southeast of the Little Maria Mountains, and northeast of the McCoy Mountains. (Stone, 2006; Jennings, 1967). The surrounding mountains reach as much as 3,000 feet or more above the valley floor, and about 3,350 feet above mean sea level (amsl) (Metzger, et al., 1973). The valley floor is dominated by Quaternary age alluvial and fluvial sediments derived form the surrounding mountain ranges or transported in by the nearby Colorado River.

SITE SPECIFIC GEOLOGY AND PALEONTOLOGY

The geology in the vicinity of the BSPP project site has been mapped by Jennings (1967) at a scale of 1:250,000 and Stone (2006) at a scale of 1:100,000. No larger scale maps (1:24,000) were available for this analysis. A review of these published maps indicate that the BSPP project site is mostly underlain by Quaternary to Tertiary age alluvial and fluvial deposits ranging from Pliocene (greater than 10,000 years before present [BP]), Pleistocene (1.8 million years old [Ma] to 10,000 years before present [BP]) and Holocene (10,000 years BP to Recent) in age (Figure 2 and Table 2). In addition, a small outcropping of the McCoy Mountains Formation, Cretaceous in age, occurs in the far southwestern portion of the project site. These geologic units, and their paleontological resource potential, are depicted in Figures 2 and 3 and discussed in more detail in the following sections.

McCoy Mountains Formation (Kmf)

The McCoy Mountains Formation mostly occurs to the southwest of the project site, and is outside of the proposed area of ground disturbance. This formation, Cretaceous and possibly Jurassic in age, is subdivided into Members A through L. A very small outcrop of Member F of this formation is present within the project boundaries and is mapped as "Kmf." Member F, Cretaceous in age, is composed of light to medium-gray, fine to coarse grained arkosic sandstone and conglomerate interbedded with some light gray phyllitic shale. The total thickness of this member is 2,600 meters (Stone, 2006).

Stone (2006) reports that equivalent strata west of the BSPP area and in the vicinity of the Palen Mountains has yielded fragments of fossil wood of late Early Cretaceous age. No statement on the sensitivity of the unit was made in any of the record searches performed for this project and no previously recorded significant fossil specimens have been reported from this unit. However, the LACM did note that the older and younger Quaternary alluvial deposits within the area are likely derived from this formation. Under SVP (1995) criteria, this unit is considered to have a low paleontological sensitivity

Alluvial deposits of the McCoy Wash area (QTmw)

Alluvial deposits of the McCoy Wash area, mapped as “QTmw,” outcrop in both the eastern and the southern portion of the BSPP project area. This unit, Pleistocene and/or Pliocene in age, is composed of hill forming deposits of rounded river gravel and locally derived gravel. These broad hills reach 15 to 25 meters above Palo Verde Mesa in the vicinity of McCoy Wash and southeast of the McCoy Mountains. The surface gravels are underlain by brown, well-consolidated calcareous or gypsiferous sandstone (Stone, 2006).

Although no *in-situ* fossil resources were discovered from this geologic unit within the project area, it is considered highly likely to contain significant paleontological resources because of its age, subsurface lithologic composition, and proximity to the ancient Colorado River floodplain. Additionally, this unit is known to be equivalent in age to the nearby Arroyo Diablo Formation, which has a proven paleontological resource potential (Jefferson, 2009). Therefore, under SVP (1995) criteria, this geologic unit is considered to have a high paleontological sensitivity.

Alluvial deposits of Palo Verde Mesa (Qpv)

The Palo Verde Mesa is located immediately southeast of the BSPP area and alluvial deposits composing the mesa are present in the northeast portion of the Project site. Mapped as “Qpv” and dated as Pleistocene in age (1.2 million years ago [Ma] to 10,000 years BP) this unit consists of terrace forming unconsolidated to weakly consolidated sand, pebbly sand, silt and clay (Stone, 2006).

Although no *in-situ* fossil resources were discovered from this geologic unit within the Project area, numerous vertebrate localities have been reported from the same or similar units elsewhere in the eastern Mojave Desert, in Arizona, and in Sonora Mexico yielding scientifically significant remains of *Mammuthus* sp. (extinct mammoth) and several thousand other vertebrate fossils (Scott, 2009). Therefore, under SVP (1995) criteria this geologic unit is considered to have a high paleontological sensitivity.

Alluvial fan and alluvial valley deposits (Qa_6, Qa_3, QTa_2)

Various alluvial fan and alluvial valley deposits underlie the majority of the project area and consist of unconsolidated to weakly consolidated angular to subangular gravel and sand derived from the surrounding mountains. Older deposits are locally well consolidated. Stone (2006) divides these alluvial deposits into six units based on surficial and geomorphic characteristics. The center and eastern portions of the BSPP site is mostly underlain by the Holocene age Unit 6, mapped as “Qa_6,” consisting of mostly sand, pebbly sand, and sandy pebble-gravel locally overlain by eolian sand (Stone, 2006). Stone (2006) assigns this unit an age of 100 to 2,000 years BP. The Holocene and Pleistocene age Unit 3, mapped as “Qa_3”, is variously mapped in the center and western portion of the Project area. This unit consists of alluvial fan deposits composed of gravel and sand forming relatively dissected surfaces referred to as desert pavement. Stone (2006) assigns

Qa_3 an age ranging between 730,000 to 8,000 years BP. Finally, the oldest alluvial fan deposit within the project area, mapped as "QTa_2", occurs in the westernmost portion of the BSPP site. This unit, dated as at least 12,000 years BP or possibly as old as Miocene in age, consists of fine to coarse, poorly sorted gravel and sand that typically form high, narrow ridges extending away from local mountain fronts (Stone, 2006).

Although no *in-situ* fossil resources were discovered from this geologic unit within the Project area, several previously recorded vertebrate localities have been recorded from the same or similar deposits southwest and northwest of the Project area (McLeod, 2009). Whereas Qa6 is too young to contain fossilized material and is considered to have a low sensitivity at least at the surface, the older units Qa_3 and QTa_2 are considered as having high potential for containing significant fossil resources (McLeod, 2009; Scott, 2009) and under SVP (1995) criteria are considered to have a high paleontological sensitivity.

Quaternary alluvium of modern washes (Qw)

Quaternary alluvium of modern washes, mapped as "Qw," occurs in the northeast portion of the Project area within the McCoy Wash and in the west and southwest portion of the Project area in areas mapped as a "dry wash." Modern wash sediments, dated as Recent in age, consist of unconsolidated, angular to subangular gravelly sand derived from the surrounding higher elevations. These sediments are coarser grained toward the flanks of the surrounding mountains and become more fine grained grading toward younger alluvial sand and gravel (Stone, 2006).

Holocene-aged sediments often contain the remains of modern organisms, however they are too young to contain significant paleontological resources. In addition, coarser grained alluvial deposits are not likely to contain significant vertebrate fossils due to their nature of deposition; therefore, these sediments are determined to have a low paleontological sensitivity. However, paleontologically sensitive Pleistocene age alluvial and fluvial deposits may be encountered at depth, Thus, areas within the Project area mapped as "Qw" are considered to have a paleontological sensitivity ranging from low to high increasing with depth (i.e. age).

Table 2. Geologic Units Within the Blythe Solar Power Plant Project Area

Age	Geologic Unit	Map Abbreviation*	Typical Fossil Types	Paleontological Resource Potential (Sensitivity)
Holocene	Quaternary alluvium of modern washes	Qw^1, Qal^2	None	Low
Holocene and Pleistocene	Alluvial-fan and alluvial-valley deposits	$Qa_6{}^1$, $Qa_3{}^1$	Terrestrial Vertebrates	Low to High (increasing with depth)
Pleistocene	Alluvial deposits of Palo Verde Mesa	Qpv^1, Qal^2	Terrestrial Vertebrates	High
Pleistocene and/or Pliocene	Alluvial deposits of the McCoy Wash area	$QTmw^1$, QP^2	Terrestrial Vertebrates	High
Pleistocene to Miocene	Alluvial-fan and alluvial-valley deposits	$QTa_2{}^1$, Qc^2	Terrestrial Vertebrates	High
Jurassic	McCoy Mountains Formation, Member F	Kmf^1, ms^2	Fossil wood	Low

Table 2. Geologic Units Within the Blythe Solar Power Plant Project Area

Age	Geologic Unit	Map Abbreviation*	Typical Fossil Types	Paleontological Resource Potential (Sensitivity)

*Sources:

- [1]Stone, P. 2006. Geologic Map of the West Half of the Blythe 30' by 60' Quadrangle, Riverside County, California and La Paz County, Arizona.
- [2]Jennings, C.W. 1967. Geologic Map of California, Salton Sea Sheet. Scale 1:250,000. California Division of Mines and Geology.

ANALYSIS AND RESULTS

MUSEUM RECORDS SEARCH

A review of museum collections records at the LACM, SBCM, and CDDSRC confirmed that no fossil localities have been previously recorded within the BSPP disturbance area boundaries or within a one-mile radius. However, at least three vertebrate fossil localities have been previously recorded southwest of the Project area within the same or similar sediments (McLeod, 2009). LACM 5977, located just south of due west of the BSPP site north of I-10 and on the southwest side of Ford Dry Lake, yielded fossilized remains of Perognathus (pocket mouse). LACM (CIT) 208 and LACM 3414, located west-northwest of the proposed BSPP site between Eagle and Coxcomb Mountains, yielded fossilized remains of *Gopherus* (tortoise), *Equus* (horse), *Camelops* (camel) and *Tanupolama stevensi* (llama). The depth at which these localities were discovered was not reported by the LACM; however, the SBCM indicates that significant vertebrate fossil remains have often been discovered in this region from similar Pleistocene deposits at a depth of approximately five feet or more below the ground surface (Scott, 2009).

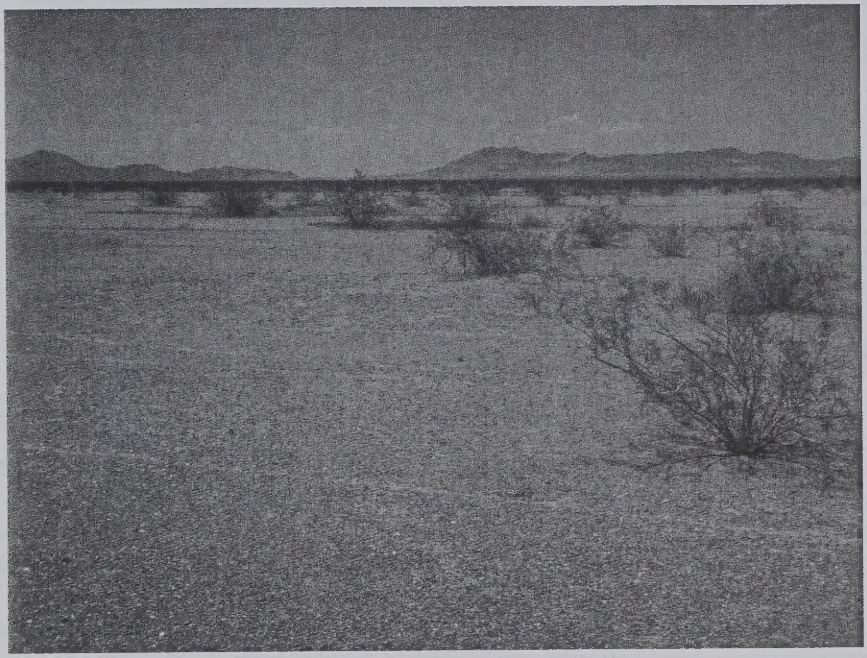
Table 3. Previously Recorded Fossil Localities in the Vicinity of the Project.

Geological Formation	*Museum Locality Number and Approximate Location	Taxon	Common Name
Quaternary Alluvium	LACM 5977; just south of due west of the southernmost portion of the project area north of I-10 and on the southwest side of Ford Dry Lake	*Perognathus*	Pocket mouse
Quaternary Alluvium (Pinto Formation)	LACM (CIT) 208 and LACM 3414; west-northwest of the project area between the Eagle Mountains and the Coxcomb Mountains	*Gopherus*	Tortoise
		Equus	Horse
		Camelops	Camel
		Tanupolama stevensi	Camel

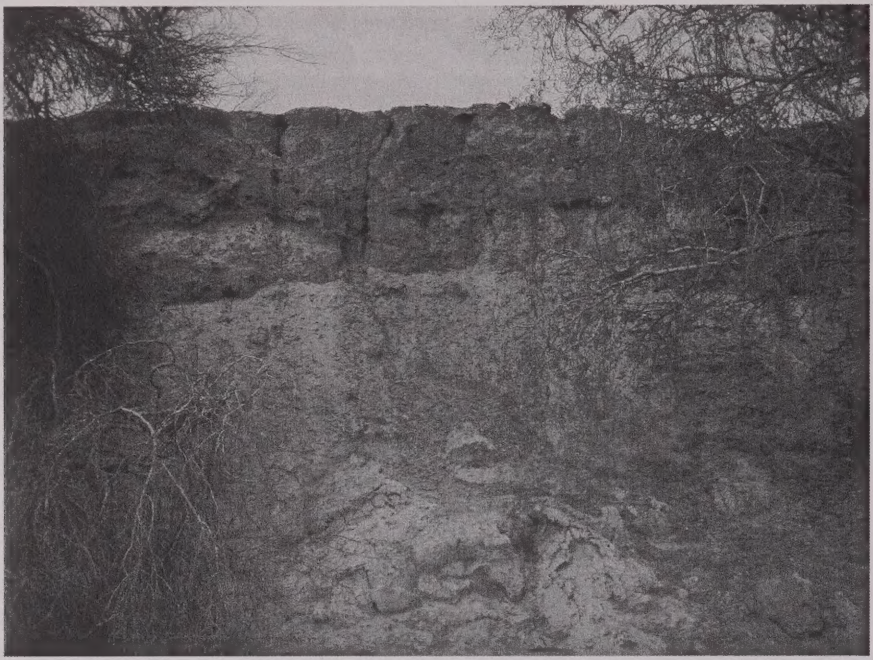
*LACM = Natural History Museum of Los Angeles County
SBCM= San Bernardino County Museum

FIELD SURVEY

A comprehensive field survey of the project area was performed between June 2 and June 20, 2009. The entire project area was relatively flat and scarcely to moderately vegetated (Photograph 1). A transect survey of the entire study area was conducted using 25- to 50-meter intervals, with close examination of exposed cross-sections and drainages (Photograph 2). The interval width used in any given area was determined based on the expected abundance of fossil materials in each area, based upon the recommendations of the museum records searches performed prior to the field survey, inspection of geologic and aerial maps, and visual observations of ground surface visibility. Both a handheld Garmin Global Positioning System (GPS) unit and a Trimble GeoXT GPS unit were used to ensure complete coverage of the project area. Upon discovery of any fossil materials, the exact location of each fossil was recorded on the Trimble unit and pertinent information was recorded for each specimen, including notes on the material on which it was found and a brief description of the specimen. A set of photographs were also taken and if warranted, the fossil was then collected.



Photograph 1. View of typical ground visibility within the BSPP site.



Photograph 2. View of an alluvial deposit along a drainage within the BSPP site.

During the course of the paleontological survey within the BSPP site, a total of thirty-seven non-significant fossil occurrences yielding petrified wood and sixty-four non-significant fossil points yielding non-diagnostic vertebrate material were recorded. All specimens were discovered *ex situ* (removed from their original place of fossilization) as lag deposits transported and unknown distance and re-deposited on top of alluvial sediments. The petrified wood was mostly likely transported in as reworked deposits from nearby Jurassic and Cretaceous age units (McCoy Mountains Formation or equivalent). For the purposes of surface clearance, the vertebrate fossils were collected and examined by vertebrate paleontologists and subsequently determined to be unidentifiable beyond the classifications of Testudines (turtles) and Mammalian (mammals). No petrified wood was collected throughout the course of the survey.

All specimens were discovered *ex situ* as lag deposits transported an unknown distance and re-deposited on top of alluvial sediments. For this reason, and due to the lack of diagnostic characteristics, none of the paleontological resources discovered within Project site are considered scientifically significant. However, the presence of fossilized bone indicates that scientifically significant specimens could be discovered in situ at the subsurface.

Table 4. Newly Recorded Fossil Occurrences Within the BSPP Boundaries

Geologic Formation*	SWCA Field Number	Taxa and Description	Significance
Alluvial fan and alluvial valley deposits (Qa_3 and Qa_6)	090606-JJS-01	Testudines- 2 shell fragments	Non-significant
	090608-JJS-01	Testudines- 2 shell fragments	Non-significant
	090609-BPN-01	Testudines- 1 shell fragment	Non-significant
	090609-BPB-02	Testudines- 1 shell fragment	Non-significant
	090609-SML-01	Testudines- 1 shell fragment	Non-significant
	090609-SML-02	Testudines- 1 shell fragment	Non-significant
	090610-BPB-01	Testudines- 1 shell fragment	Non-significant

Table 4. Newly Recorded Fossil Occurrences Within the BSPP Boundaries

Geologic Formation*	SWCA Field Number	Taxa and Description	Significance
	090610-BPB-02	Mammalian- bone fragment, possible rib	Non-significant
	090610-BPB-03	Mammalian- bone fragment Testudines- 1 shell fragment	Non-significant
	090610-BPB-04	Testudines- 1 shell fragment	Non-significant
	090610-SML-01	Testudines - possible cervical vertebra	Non-significant
	090610-SML-02	Testudines- 2 shell fragments	Non-significant
	090610-SML-03	Testudines- 2 shell fragments	Non-significant
	090612-BPB-01	Testudines- 1 shell fragment	Non-significant
	090612-SML-01	Testudines- 1 shell fragment	Non-significant
	090616-BPB-01	Mammalian- bone fragment	Non-significant
	090616-BPB-02	Testudines- 1 shell fragment	Non-significant
	090616-BPB-03	Testudines- 1 shell fragment	Non-significant
	090616-BPB-04	Testudines- 1 shell fragment	Non-significant
	090616-BPB-05	Testudines- 1 shell fragment	Non-significant
	090616-JJS-01	Testudines- 1 shell fragment	Non-significant
	090616-SML-01	Testudines- 2 shell fragments	Non-significant
	090616-SML-02	Testudines- 1 shell fragment	Non-significant
	090616-SML-03	Testudines- 2 shell fragments	Non-significant
	090616-SML-04	Testudines- 2 shell fragments	Non-significant
	090616-SML-05	Testudines- 1 shell fragment	Non-significant
	090616-SML-06	Testudines- 1 shell fragment	Non-significant
	090616-SML-07	Testudines- 1 shell fragment	Non-significant
	090617-BPB-01	Testudines- 1 shell fragment	Non-significant
	090617-BPB-02	Testudines- 1 shell fragment	Non-significant
	090617-BPB-03	Testudines- 1 shell fragment	Non-significant
	090617-SML-01	Testudines- 1 shell fragment	Non-significant
	090617-SML-02	Testudines- 1 shell fragment	Non-significant
	090617-SML-03	Testudines- 1 shell fragment	Non-significant
	090618-BPB-01	Testudines- 1 shell fragment	Non-significant
	090618-BPB-02	Mammalia- limb bone fragment?	Non-significant
	090618-BPB-03	Testudines- 1 shell fragment	Non-significant
	090618-BPB-04	Testudines- 1 shell fragment	Non-significant
	090618-JJS-01	Testudines- 1 shell fragment	Non-significant
	090618-JJS-02	Mammalia- limb bone fragment?	Non-significant
	090618-JJS-03	Testudines- 1 shell fragment	Non-significant
	090618-JLD-01	Testudines- 1 shell fragment	Non-significant
	090618-SML-01	Testudines- 1 shell fragment	Non-significant
	090618-SML-02	Testudines- 1 shell fragment	Non-significant
	090618-SML-03	Testudines- 1 shell fragment	Non-significant

Table 4. Newly Recorded Fossil Occurrences Within the BSPP Boundaries

Geologic Formation*	SWCA Field Number	Taxa and Description	Significance
	090620-BPB-01	Testudines- 1 shell fragment	Non-significant
	090620-BPB-02	Testudines- 1 shell fragment	Non-significant
	090620-BPB-03	Testudines- 2 shell fragments	Non-significant
	090620-BPB-04	Testudines- 2 shell fragments	Non-significant
	090620-BPB-05	Testudines- 1 shell fragment	Non-significant
	090520-JJS-01	Testudines- 1 shell fragment	Non-significant
	090620-JJS-02	Mammalia – distal femur fragment?	Non-significant
	090620-JJS-03	Testudines- 1 shell fragment	Non-significant
	090620-JJS-04	Testudines- 2 shell fragments	Non-significant
	090620-JJS-05	Testudines- 1 shell fragment	Non-significant
	090620-JJS-06	Testudines- 1 shell fragment	Non-significant
	090620-SML-01	Testudines- 1 shell fragment	Non-significant
	090620-SML-02	Testudines- 1 shell fragment	Non-significant
	090620-SML-03	Testudines- 1 shell fragment	Non-significant
	090620-SML-04	Testudines- 4 shell fragments, 1 Mammalia bone fragment	Non-significant
	090620-SML-05	Testudines- 1 shell fragment	Non-significant
	090620-SML-06	Testudines- 2 shell fragments	Non-significant
	090620-SML-07	Testudines- 1 shell fragment	Non-significant

*Float

NON-SIGNIFICANT FOSSIL OCCURRENCES

Thirty-seven non-significant fossil occurrences were discovered within the Project area. A fossil specimen is designated a non-significant fossil occurrence (NFO) when it can be determined in the field that the specimen contains no significant paleontological information, but whose presence may still potentially be used to determine the possibility of discovering or perhaps even locating significant fossil remains within a given area in the future. Therefore, while the specimen itself does not need to be collected, its presence and exact location is still worth recording.

Petrified Wood

All but two of the NFOs recorded during the course of the field survey consisted of one or more petrified wood fragments. None of these fragments were found to posses any unique features that could be used to identify them beyond the generic classification of "fossilized wood." These petrified wood fragments ranged in size from small (between 1 and 5 cm long) to very large (greater than 20 cm long), with the majority being of moderate size (between 5 and 10 cm long) (Photograph 3). Four of the NFOs discovered were recorded as "NFO Lines". NFO lines were recorded when the abundance of petrified wood within a given area was so great that recording each individual piece of wood as a single NFO point would have been inefficient and uninformative. Along the largest of the four NFO lines, F3-090617-17 (Confidential Attachment A), over one hundred pieces of petrified wood were noted, ranging in size from

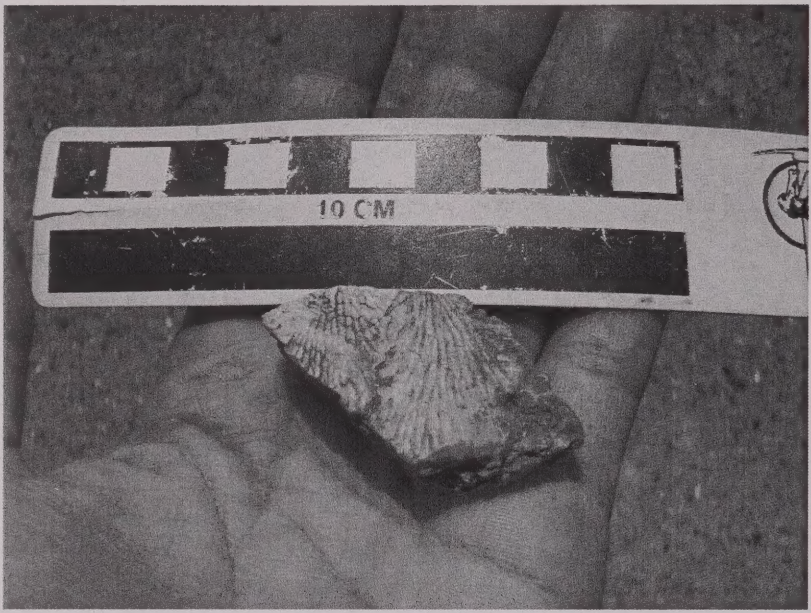
Photograph 3. Petrified wood, F3-090617-14

very small to very large and were spaced approximately ten to twenty feet apart. The three smaller NFO lines, F3-090617-09, F3-090617-13, and F3-090617-15 contained between twenty and fifty specimens of petrified wood each, also ranging in size from small to very large, and also spaced between ten and twenty feet apart, although the number of larger specimens of petrified wood in each NFO line decreased eastward within the lines and northward between the lines.

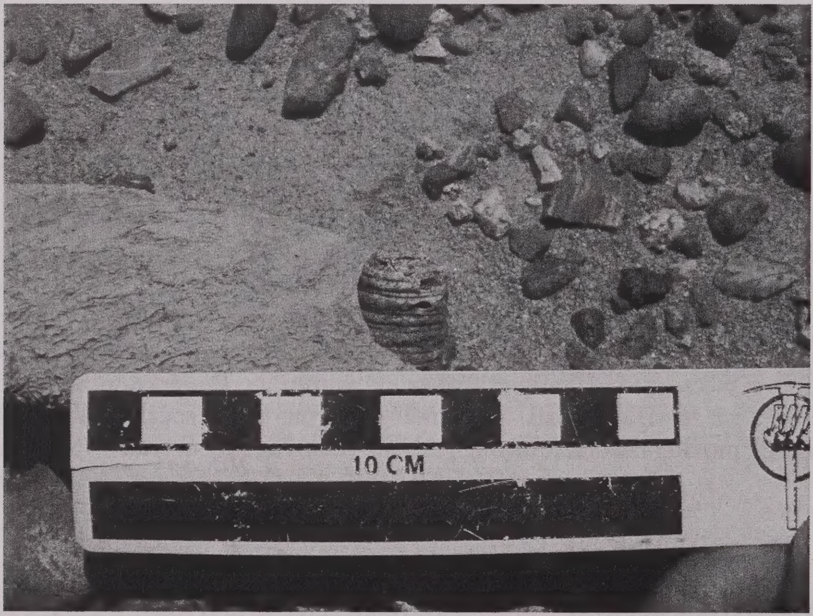
All of the petrified wood discovered was found *ex-situ*, removed from its original place of fossilization by the natural processes of erosion. Because of this, it is difficult to determine the true source of the petrified wood. However, it has been noted by Stone (2006) that within the Palen Mountains, petrified wood has been found in Cretaceous strata that are equivalent to the McCoy Mountains Formation found immediately west and southwest of the project area. While it would be difficult to prove that the McCoy Mountains Formation is the source of the petrified wood within the Project site, it does seem to be the most likely source for such fossil materials. The finding that the larger specimens of petrified wood are seen with less frequency moving northeast through the site seems to support this hypothesis.

Invertebrates

Two invertebrate specimens were recorded as NFO points. F3-090618-09 consists of a fragmentary bivalve shell impression (Photograph 5), and F3-090618-18 consists of a small fragment of a crinoid stem (Photograph 6). Neither specimen possesses any distinguishing characteristics to identify them beyond the basic classifications of bivalve and crinoid. Both of these specimens were found on top of cobble terrace deposits (QTmw) along the eastern edge of the project area (Confidential Appendix B), likely having been transported far from their original source along with the other rock fragments that make up the cobble terrace when they were originally deposited by the Colorado River (Stone 2006). Because these specimens possessed no diagnostic characteristics and were likely transported far from their original source location, they were not considered to have high paleontological significance and thus were not collected.



Photograph 4. Fossil bivalve, F3-090618-09



Photograph 5. Fossil crinoid, F3-090618-18

FOSSIL OCCURRENCE POINTS

A total of sixty-four fossil occurrence points (i.e. localities) were recorded within the project area. The discovery of a fossil specimen is recorded as a fossil "point or "locality" when the significance of the specimen can not be determined in the field, and further evaluation is warranted. Because no vertebrate remains had been previously noted within the project area or within the immediate surroundings of the

Project area, it was determined at the start of the project that any vertebrate remains discovered should be considered as potentially significant.

Vertebrates

As previously discussed, vertebrate remains have been previously discovered within the immediate vicinity of the)Project area, but not within the Project area itself. Because all vertebrate remains are considered by the BLM to be of potential significance and because none have been previously recorded within the Project site or within a one-mile radius, all vertebrate remains discovered during the field survey were collected. Of the 62 vertebrate fossil specimens discovered, 55 were determined to belong to the order Testudines, more commonly referred to as turtles. It is likely that all of these specimens belong to the family of Testudinidae, the land tortoises; however, it is difficult to be certain with most of the specimens as they lack any diagnostic characteristics required to make this distinction. These specimens typically consisted of shell and plastron fragments, usually between 2 and 3 square cm in size, although several shell fragments were much larger than this. A single cervical (neck) vertebra was discovered (090610-SML-01), the only non-shell turtle materials recovered during the field survey. The remaining eight vertebrate fossils discovered have been identified as mammalian and include a rib fragment, an ungula (terminal toe bone), a distal femur fragment, and several limb bone fragments. Unfortunately, none of the mammal bone fragments discovered possess any features that can be used to identify the specimens beyond the classification of Mammalian.

All of the vertebrate fossil remains discovered were found *ex-situ*, removed from their original place of fossilization, and resting on top of alluvial deposits. Additionally, nearly all of the specimens were found on Holocene-aged, young alluvial-fan and alluvial valley deposits (Qa_6). While it is difficult to determine the exact origin of these fossil remains, it is suspected that they are originated from the surrounding and/or underlying Plio-Pleistocene and Pleistocene sediments, such as the alluvial deposits of the McCoy Wash area (QTmw) (see Figure 2), sediments that have been recognized by the LACM, SBCM and CDDSRC as potentially highly fossiliferous.

CONCLUSIONS

All specimens were discovered *ex-situ* as lag deposits transported an unknown distance and re-deposited on top of alluvial sediments. For this reason, and due to the lack of diagnostic characteristics, none of the paleontological resources discovered within Project site are considered scientifically significant. However, the presence of fossilized bone indicates that scientifically significant specimens could be discovered *in situ* at the subsurface. The destruction of fossils as a result of human-caused ground disturbance has a significant cumulative impact, as it makes biological records of ancient life permanently unavailable for study by scientists. Implementation of proper mitigation measures can, however, reduce the impacts to the paleontological resources to below the level of significance. Construction of the project has the potential to result in the destruction of sub-surface paleontological resources via breakage and crushing related to ground-disturbing activities during grading for the proposed solar field, power block, drainage channels, and access road. Ground disturbance and terrain modification, expected to disturb 8,300,000 cubic yards of sediments, has the potential to adversely affect an unknown quantity of fossils that may occur on or underneath the surface in areas containing paleontologically sensitive geologic units. Although no significant paleontological resources were identified within the Project area during the course of the field survey, the entire Project area is underlain by geologic sediments determined to have a high paleontological sensitivity either at the surface or at a potentially shallow depth (5 feet or less below ground surface) (Figure 3).

All ground-disturbing activities in areas determined to have a high sensitivity (see Figure 3) shall be monitored on a full-time basis because of their high paleontological sensitivity. All ground disturbances in areas determined to have a "low to high" sensitivity (see Figure 3) at depths of 5 feet or greater shall also be monitored on a full-time basis. All ground disturbing activities less than 5 feet in depth shall be "spot-checked" by paleontological monitors.

Shallow excavations related to the development of the proposed plant site in areas immediately underlain by Holocene age alluvium are unlikely to result in adverse impacts to significant paleontological resources as these sediments are determined to have a "low" sensitivity at the surface. However, deeper excavations (5 feet or greater) within this unit may have an adverse impact to paleontological resources unless proper mitigation measures are implemented. Any excavations within Pleistocene and/or Pliocene age units throughout the project area may result in adverse impacts to paleontological resources unless proper mitigation measures are implemented.

Using information from published geologic maps and the results of the paleontology study of the PSP project site, the locations of the paleontologically sensitive geologic units underlying the proposed project area were identified and are depicted in Figure 3.

RECOMMENDED MITIGATION MEASURES

Ground-disturbing activities in the BSPP project area may result in adverse impacts to significant paleontological resources unless proper mitigation measures are implemented. Implementation of proper mitigation measures can, however, reduce the impacts to the paleontological resources to below the level of significance.

The following mitigation measures have been developed to reduce the potential adverse impacts on paleontological resources to a less than significant level. The measures are based on the SVP standard guidelines (1995) and meet the requirements of CEQA. These mitigation measures have been used throughout California and have been demonstrated to be successful in protecting paleontological resources while allowing timely completion of construction projects in paleontologically sensitive areas.

PRE-CONSTRUCTION PHASE

A. Prior to the start of any project related construction (defined as construction related vegetation clearing, ground disturbance and preparation, and site excavation activities), the project owner shall ensure that the designed paleontological resource specialist approved by the CPM is available for field activities and prepared to implement the conditions of certification. The designated paleontological resource specialist shall be responsible for implementing all the paleontological conditions of certification and for using qualified personnel to assist in this work.

B. Prior to the start of construction, a Paleontological Resource Monitoring and Mitigation Plan drafted by the designated paleontological resource specialist shall be submitted to the CPM for approval. The plan shall identify general and specific measures to minimize potential impacts to sensitive paleontological resources. The project paleontological resource specialist shall implement the Paleontological Resource Monitoring and Mitigation Plan as needed.

The Paleontological Resource Monitoring and Mitigation plan shall include, but not be limited to, the following elements and measures.

- A discussion of the sequence of project-related tasks, such as any preconstruction surveys, fieldwork, flagging or staking; construction monitoring; mapping and data recovery; fossil preparation and recovery; identification and inventory; preparation of final reports; and transmittal of materials for curation;
- Identification of the person(s) expected to assist with each of the tasks identified within this condition, and a discussion of the mitigation team leadership and organizational structure, and the interrelationship of tasks and responsibilities;
- Where monitoring of project construction activities is deemed necessary, the extent of the areas where monitoring is to occur and a schedule for the monitoring.
- An explanation that the designated Paleontological Resource Specialist shall have the authority to halt or redirect construction in the immediate vicinity of a vertebrate fossil find until the significance of the find can be determined;
- A discussion of the equipment and supplies necessary for the recovery of fossil materials and any specialized equipment needed to prepare, remove, load, transport, and analyze large-sized fossils or extensive fossil deposits;
- Inventory, preparation and delivery for curation info a retrievable storage collection in a public repository or museum, which meets the Society of Vertebrate Paleontology standards and requirements for the curation of paleontological resources; and
- Identification of the intuition that has agreed to receive any data and fossil materials recovered during project-related monitoring and mitigation work, discussion of any requirements of specifications for materials delivered for curation and how they will be met, and the name and phone number of the contact person at the institution.

C. Prior to the start of construction, the Paleontological Resource Specialist shall prepare a staff training program for review and approval by the CPM. Prior to and throughout the project and as needed, the paleontological resource specialist shall conduct training for the project owner, project managers, construction supervisors, equipment operators and all new employees in accordance with the CPM approved training plan. Contractor briefings will also be videotaped and used for education for new employees.

The paleontological training program shall address the potential to encounter paleontological resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources. The training program shall also include the set of reporting procedures that workers are to follow if paleontological resources are encountered during project activities. The training program shall be presented by the designated Paleontological Resource Specialist and may be combined with other training programs prepared for cultural and biological resources, hazardous materials or any other areas of interests or concerns.

CONSTRUCTION PHASE

D. The designated paleontological resource specialist or paleontological monitor shall be present at all times he or she deems appropriate to monitor construction-related grading, excavation, trenching, and/or augering in areas with a significant potential for fossil-bearing sediments to occur. All ground-disturbing activities in areas determined to have a high sensitivity (See Figure 3) shall be monitored on a full-time basis because of their high paleontological sensitivity. All ground disturbances in areas determined to have a "low to high" sensitivity (see Figure 3) at depths of 5 feet or greater shall also be monitored on a full-time basis. All ground disturbing activities less than 5 feet in depth shall be "spot-checked" by paleontological monitors. The frequency of the spot checks shall be determined by the Paleontological Specialist and will be based on factors such as the extent of ground disturbance and the location of those disturbances in relation to paleontologically sensitive sediments. Paleontological monitoring will include inspection of exposed rock units and collection of matrix to be testing for the presence of microscopic fossils. Paleontological monitors will have authority to temporarily divert excavations or drilling away from exposed fossils in order to efficiently and professionally recover the fossil specimens and collect associated data.

POST-CONSTRUCTION PHASE

E. The project owner, through the designated paleontological resource specialist, shall ensure recovery, preparation for analysis, analysis, identification and inventory, the preparation for curation, and the delivery for curation of all significant paleontological resource materials encountered and collected during the monitoring, data recovery, mapping, and mitigation activities related to the project.

F. The project owner shall ensure preparation of a Paleontological Resources Report by the designated paleontological resource specialist. The Paleontological Resources Report shall be completed following the analysis of the recovered fossil materials and related information. The project owner shall submit the paleontological report to the CPM for approval. The report shall include, but not be limited to, a description and inventory list of recovered fossil materials; a map showing the location of paleontological resources found in the field; determinations of sensitivity and significance; and a statement by the paleontological resource specialist that project impacts to paleontological resources have been mitigated.

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Confidential Attachment A: Non-Significant Fossil Occurrences

Confidential Attachment B: Fossil Occurrence Points

Confidential Attachment C: Paleontological Locality Forms

Confidential Documents will be submitted under separate cover

APPENDIX F

Visual Resources

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United States Department of the Interior Bureau of Land Management
Scenic Quality Field Inventory

Date
8/23/05

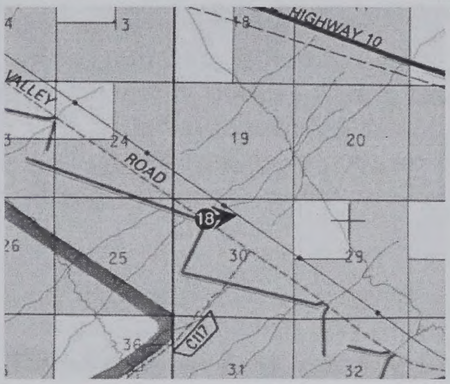
District
California Desert

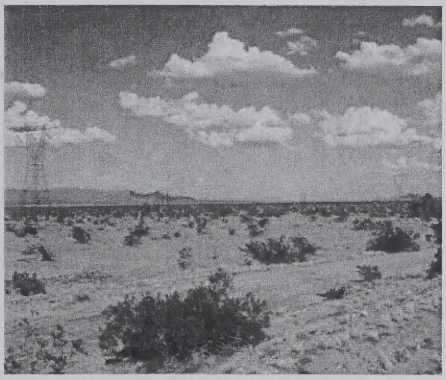
Field Office
Palm Springs

Scenic Quality Rating Unit
12

Viewpoint
18 : Chuckwalla Valley Rd.

Evaluator(s)
Michael Clayton





LANDSCAPE CHARACTER

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Flat valley floor.	Irregular distribution of low growing grasses and shrubs. Coverage appearing more consistent at distance.	Linear and complex for transmission line towers and h-frame structures. Linear for I-10 (in distance).
Line	Horizontal for the valley floor.	Irregular for individual shrubs. Horizontal as defined by the valley floor. Diagonal as demarcated by access road.	Vertical, horizontal, and diagonal for lattice and h-frame structures, horizontal for I-10.
Color	Light-tan soils.	Tan to pale-yellow grasses with tanish-gray to green shrubs.	Gray to brown.
Texture	Soils in the immediate foreground appear granular.	Medium grain to matte.	Smooth

Narrative: SQRU 12 encompasses the central-eastern portion of Chuckwalla Valley in the vicinity of the exiting transmission lines on both the north and south side of I-10. The landform of the valley floor is flat and non-descript with grass and low-growing shrubs of subdued color. Though distant mountain ranges (McCoy Mountains to the north and Chuckwalla Mountains to the south) provide limited backdrops of visual interest (not part of this unit), SQRU 12 is primarily influenced by the dominant presence of existing utility infrastructure and Interstate 10.

Score

	High	Medium	Low	Explanation or Rationale
a. Landform			1	Chuckwalla Valley Floor
b. Vegetation			1	
c. Water			0	
d. Color		2		
e. Adjacent Scenery		2		Distant McCoy and Chuckwalla Mountains
f. Scarcity			1	
g. Cultural Modifications			-4	Transmission Lines and I-10
TOTALS	0	4	-1	**3**

SCENIC QUALITY CLASSIFICATION

☐ A 19 or more

☐ B 12 - 18

☒ C 11 or less

United States Department of the Interior Bureau of Land Management

Scenic Quality Field Inventory

Date
8/23/05

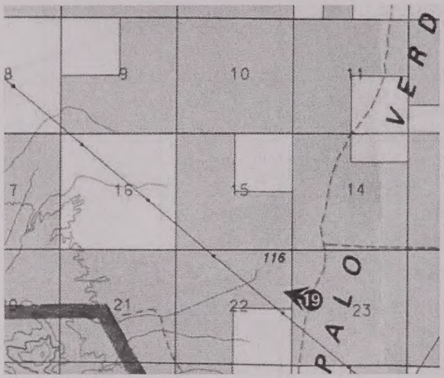
District
California Desert

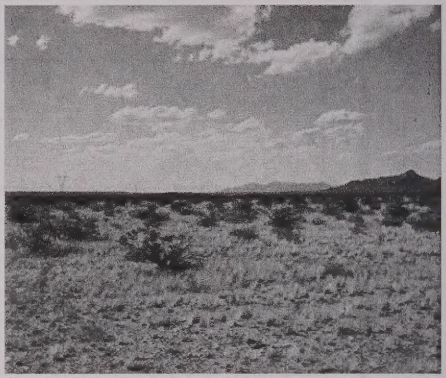
Field Office
Palm Springs

Scenic Quality Rating Unit
12

Viewpoint
19 : Mule Mtns. Access Rd.

Evaluator(s)
Michael Clayton





LANDSCAPE CHARACTER

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Flat mesa and valley floor.	Irregular distribution of low growing grasses and shrubs. Coverage appearing more consistent at distance.	Linear and complex for transmission line towers.
Line	Horizontal for the mesa/valley floor.	Irregular for individual shrubs. Horizontal as defined by the mesa/valley floor.	Vertical, horizontal, and diagonal for lattice structures.
Color	Light-tan soils.	Tan to pale-yellow grasses with tanish-gray to green shrubs.	Gray.
Texture	Soils in the immediate foreground appear granular.	Medium grain to matte.	Smooth

Narrative: Viewpoint 19 is located on Palo Verde Mesa at the eastern end of SQRU 12. Viewing to the west toward Chuckwalla Valley, the landform is flat with relatively non-descript vegetation of subtle hues of yellow and green. Though distant mountain ranges (McCoy Mountains to the north, Chuckwalla Mountains to the southwest, Mule Mountains to the south) provide backdrops of visual interest (not part of this unit), SQRU 12 is primarily influenced by the dominant presence of existing utility infrastructure.

Score

	High	Medium	Low	Explanation or Rationale
a. Landform			1	Palo Verde Mesa / Chuckwalla Valley Floor
b. Vegetation			1	
c. Water			0	
d. Color		2		
e. Adjacent Scenery		3		McCoy, Chuckwalla, and Mule Mountains
f. Scarcity			1	
g. Cultural Modifications			-3	Transmission Line
TOTALS	0	5	0	5

SCENIC QUALITY CLASSIFICATION

☐ A 19 or more

☐ B 12 - 18

☒ C 11 or less

United States Department of the Interior Bureau of Land Management

Scenic Quality Field Inventory

Date
8/19/05

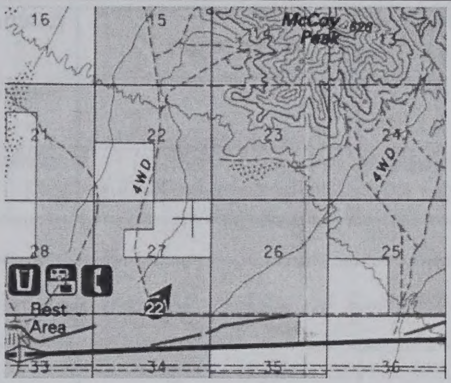
District
California Desert

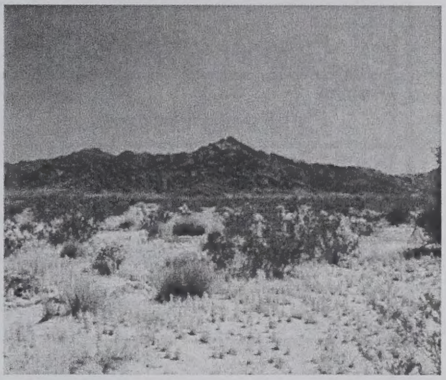
Field Office
Palm Springs

Scenic Quality Rating Unit
14

Viewpoint
22 : McCoy Peak Access

Evaluator(s)
Michael Clayton





LANDSCAPE CHARACTER

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Flat valley floor, backdropped by the rugged, angular McCoy Peak and the south end of the McCoy Mountains.	Irregular distribution of low growing grasses and shrubs, coverage appearing more consistent at distance.	None, with the exception that 4WD tracks are apparent when viewing in-line with the track.
Line	Horizontal for the valley floor. Irregular and jagged for the mountain ridgelines.	Irregular for individual shrubs. Horizontal as defined by the valley floor.	None (though curvilinear for the 4WD track).
Color	Light-tan soils. Dark-brown to bluish tones for the mountains.	Tan to pale-yellow grasses with tanish-gray to green shrubs.	None.
Texture	Soils in the immediate foreground appear smooth to granular. Mountain surfaces appear granular to matte.	Medium grain to matte.	None

Narrative: SQRU 14 encompasses McCoy Peak and the southern end of the McCoy Mountains. The Chuckwalla Valley floor that abuts the McCoy Mountains is flat and relatively non-descript with low growing grasses and shrubs. Colors are dominated by the light tan-to pale yellow grasses and green shrubs. The McCoy Mountains provide some variety in color with hues ranging from blue to magenta to brown. Unlike the surrounding Units (10, 12, and 15), the Unit 14 landscape is dominated by rugged mountainous terrain with little influence from built structures (though 4WD access tracks are visible as linear features when viewed in-line.

Score

	High	Medium	Low	Explanation or Rationale
a. Landform	4			McCoy Peak
b. Vegetation		2		
c. Water			0	
d. Color		2		
e. Adjacent Scenery		3		McCoy Mountains
f. Scarcity		3		
g. Cultural Modifications			0	Access road is noticeable
TOTALS	4	10	0	**14**

SCENIC QUALITY CLASSIFICATION

☐ A 19 or more

☒ B 12 - 18

☐ C 11 or less

United States Department of the Interior Bureau of Land Management

Visual Resource Management (VRM) Classification

Date October 13, 2005		**Evaluator(s)** Michael Clayton
District California Desert		**Field Office** Palm Springs
Scenic Quality Rating Unit (SQRU) 12	**Viewpoint** 19 : Mule Mtns. Access Road	**VRM Class** **III**

		Visual Sensitivity Levels						
		High			**Medium**			**Low**
Special Areas		I	I	I	I	I	I	I
Scenic Quality	A	II	II	II	II	II	II	II
	B	II	III* IV*	III	III	IV	IV	IV
	C	III	IV	IV	IV	IV	IV	IV
		f/m	**b**	**s/s**	**f/m**	**b**	**s/s**	**s/s**
		Distance Zones						

* Note: If adjacent area is Class III or lower, assign Class III, if higher assign Class IV

Basis for Determining Visual Resource Inventory Classes

Class I. Class I is assigned to all special areas where the current management situations require maintaining a natural environment essentially unaltered by man.

Classes II, III, and IV. These classes are assigned based on combinations of scenic quality, sensitivity levels, and distance zones as shown in the matrix above.

United States Department of the Interior Bureau of Land Management

Visual Resource Management (VRM) Classification

Date October 13, 2005		**Evaluator(s)** Michael Clayton
District California Desert		**Field Office** Palm Springs
Scenic Quality Rating Unit (SQRU) 14	**Viewpoint** 22 : McCoy Peak Access Rd.	**VRM Class** II

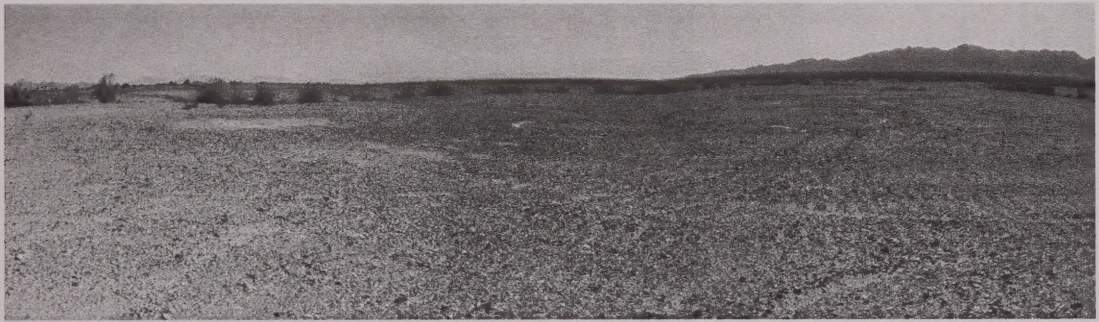
		Visual Sensitivity Levels						
		High			**Medium**			**Low**
Special Areas		I	I	I	I	I	I	I
Scenic Quality	A	II	II	II	II	II	II	II
	B	II	III* IV*	III	III	IV	IV	IV
	C	III	IV	IV	IV	IV	IV	IV
		f/m	**b**	**s/s**	**f/m**	**b**	**s/s**	**s/s**
		Distance Zones						

* Note: If adjacent area is Class III or lower, assign Class III, if higher assign Class IV

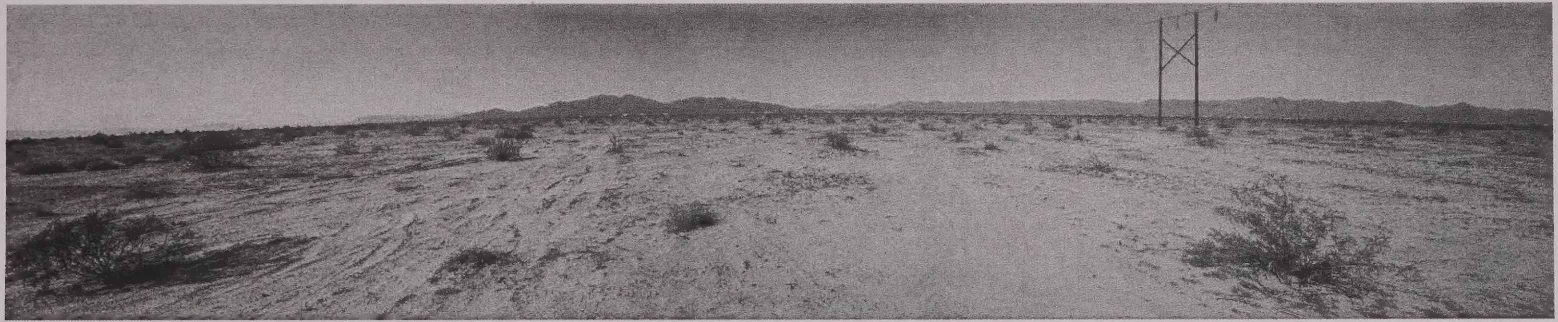
Basis for Determining Visual Resource Inventory Classes

Class I. Class I is assigned to all special areas where the current management situations require maintaining a natural environment essentially unaltered by man.

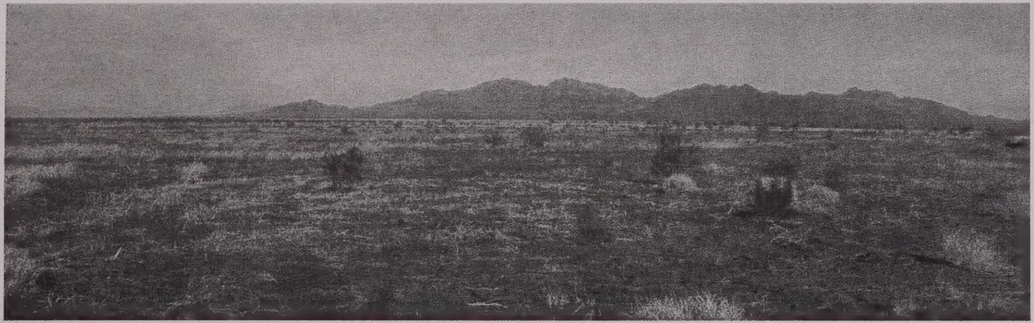
Classes II, III, and IV. These classes are assigned based on combinations of scenic quality, sensitivity levels, and distance zones as shown in the matrix above.



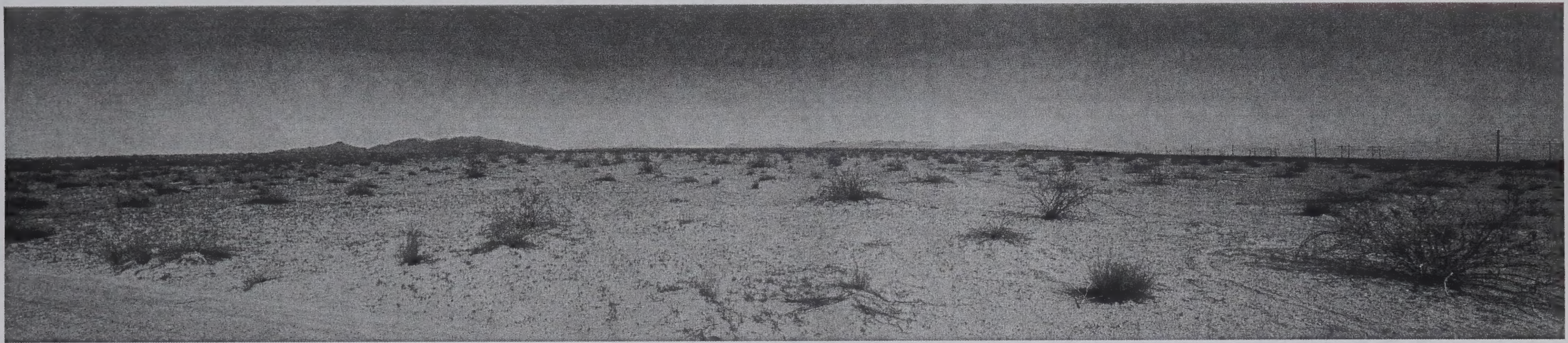
IOP 48. Inca, looking south (IOPCAD060006067) 6022_S_ChuckwallaValley_6067.JPG



IOP 49. Chuckwalla Valley Road, looking north (IOPCAD060006040) 6013_N_ChuckwallaValley_6040.JPG

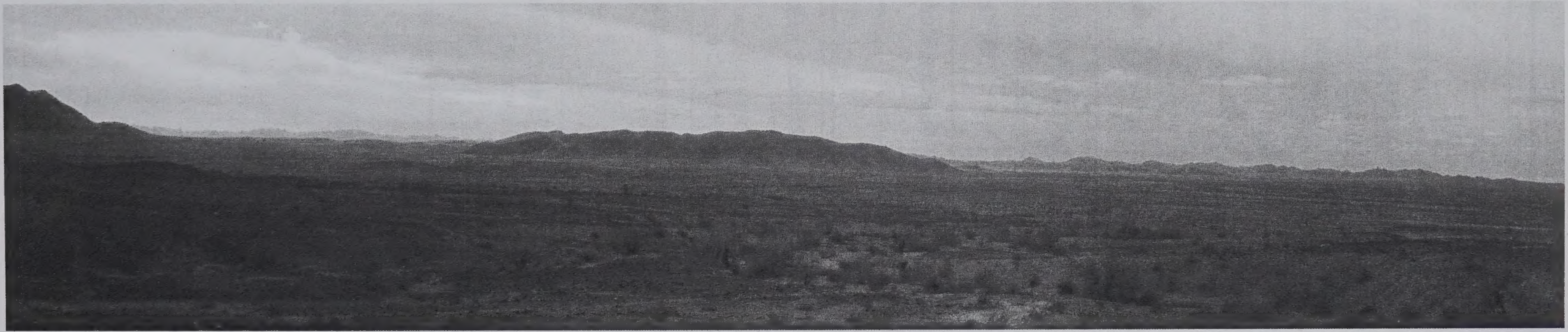


IOP 50. Hopkins Well, looking northwest (IOPCAD060000371) 96_NW_ChuckwallaValley_0371.jpg



IOP 51. Palo Verde, looking north (IOPCAD060006055)

6018_N_ChuckwallaValley_6055.JPG



IOP 52. Coon Hallow, looking southwest (IOPCAD060000291)

77_SW_ChuckwallaValley_0291.jpg

Form 8400-1
(September 1985)
(Format Modified 2008)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Field Office: Palm Springs D06000 Date: 10/6/2009

Scenic Quality Rating Unit: Chuckwalla Valley Time (24hr format): 11:50

Unit Number: 21

1. Evaluators: CBrandt GLong

2. LANDSCAPE CHARACTER (Features)			
	A. Landform/Water	**B. Vegetation**	**C. Structures**
Form	Broad valley; flat to gentle slopes; very gently rolling	Rounded, clumpy, mottled form	Roads, settlements, substations, power lines, tall cylindrical poles; geometric
Line	Horizontal landscape; vast open space	Rounded, horizontally aligned	Vertical poles, buildings
Color	Light brown to buff-colored soils and rock	Brownish-green	White, beige, desert brown, silver, brown
Texture	Smooth valley floor	Mottled; medium to coarse vegetation	Smooth surfaces

3. Narrative:

A broad, enclosed landscape surrounded on most sides by dramatic mountain ranges. Vast, natural-appearing. Vegetation is somewhat visually dominant.

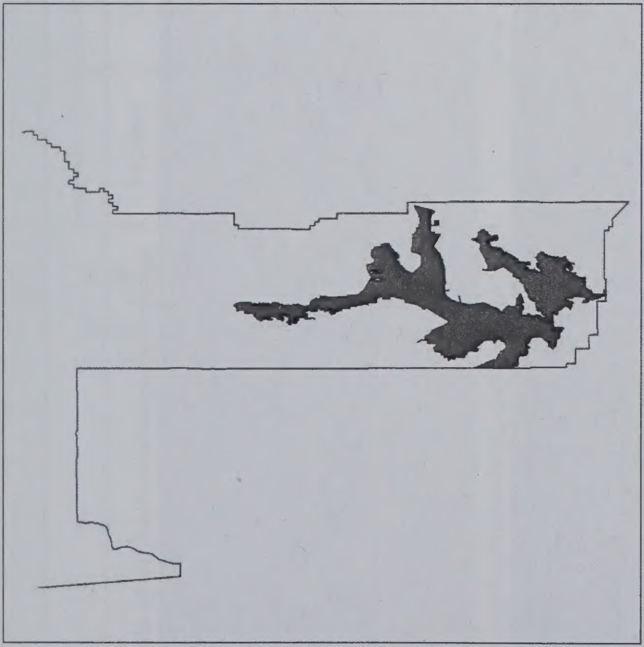
Scenic Quality Rating Unit: Chuckwalla Valley

4. SCORE

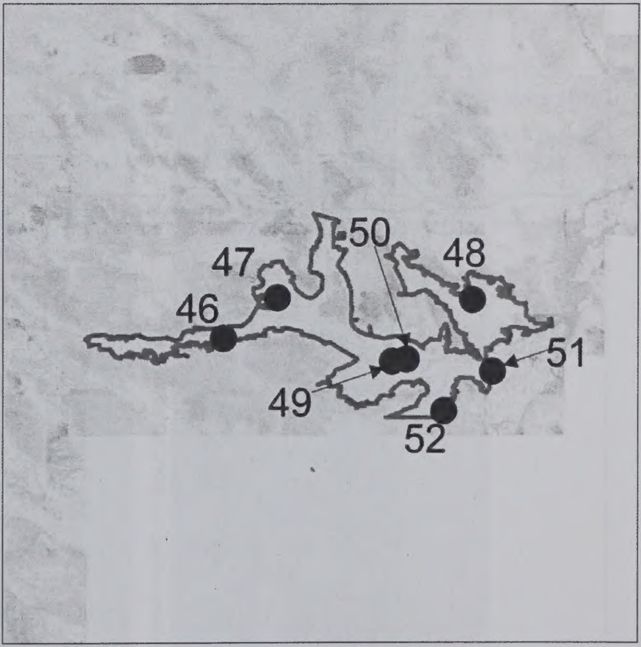
	Rating	EXPLANATION OR RATIONALE	SCENIC QUALITY CLASSIFICATION (check one)
a. Landform	1	Vast, low, gently rolling valley bottom	☐ **A – 19 or more**
b. Vegetation	3	Some variety of vegetation; one or two major types	☑ **B – 12 – 18**
c. Water	0	None present	☐ **C – 11 or less**
d. Color	2	Subtle variation; some contrast in soil, vegetation	
e. Adjacent Scenery	4	Dramatic mountains surrounding area	
f. Scarcity	2	Fairly distinctive but not unusual	☐ **Rehab**
g. Cultural Modification	0	Some cultural modification but overall natural-appearing	☐ **Special Area**
TOTAL	12		

Comments:

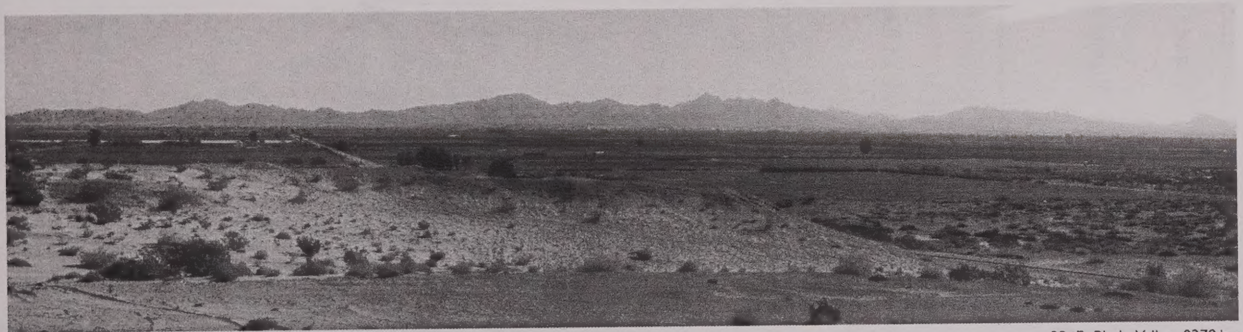
The valley is a vast area, homogenous in terms of landform and vegetation with no line or break to suggest subdividing into smaller units. Adjacent scenery is dramatic from all IOPs.



SQRU Locator

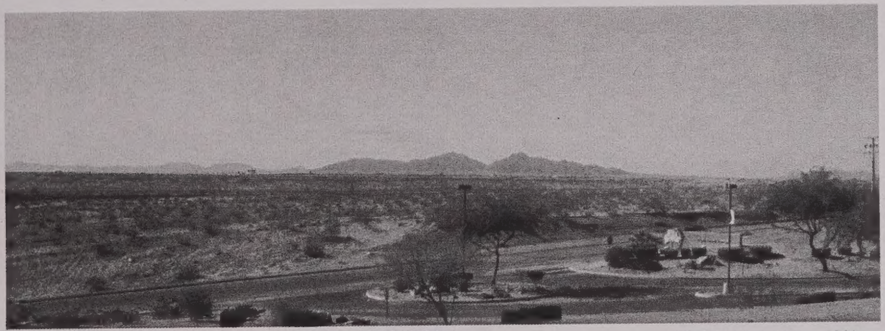


• IOP Location



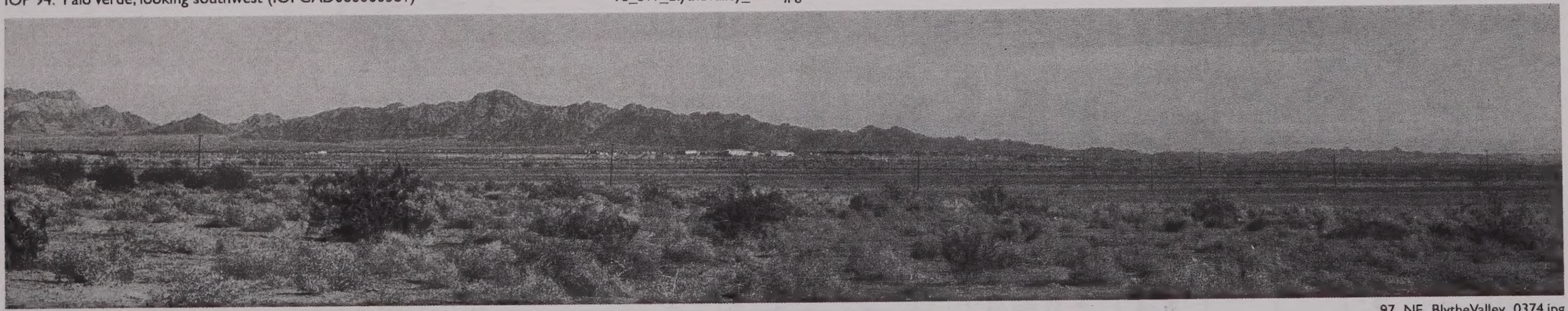
IOP 94. Palo Verde, looking east (IOPCAD060000378)

98_E_BlytheValley_0378.jpg



IOP 94. Palo Verde, looking southwest (IOPCAD060000381)

98_SW_BlytheValley_0381.jpg



IOP 95. Sewage disposal, looking northeast (IOPCAD060000374)

97_NE_BlytheValley_0374.jpg

Form 8400-1
(September 1985)
(Format Modified 2008)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Field Office: Palm Springs D06000 Date: 1/20/2010

Scenic Quality Rating Unit: Blythe Valley Time (24hr format): 14:20

Unit Number: 36

1. Evaluators: KBeatty GBrady SDixon KSchwarzler

2. LANDSCAPE CHARACTER (Features)

	A. Landform/Water	B. Vegetation	C. Structures
Form	Flat, rolling	Agricultural, larger trees; human influence low; tall and follows landform	Linear and curving roads with geometric structures
Line	Horizontal with minor diagonal along bench	Horizontal; follows landform with distinct vertical	Regular, straight, curving, horizontal, vertical
Color	Tan, beige, browns, rust	Bright green, olive green, gray-green, olive	Various residential, mostly contrasting
Texture	Smooth	Smooth with random and ordered, taller vegetation that is more dense	Scattered, ordered in town and urban areas

3. Narrative:

Valley of primarily private and some developed areas. Some agriculture and industrial uses with scattered residential. Flat to rolling valley is typical for region.

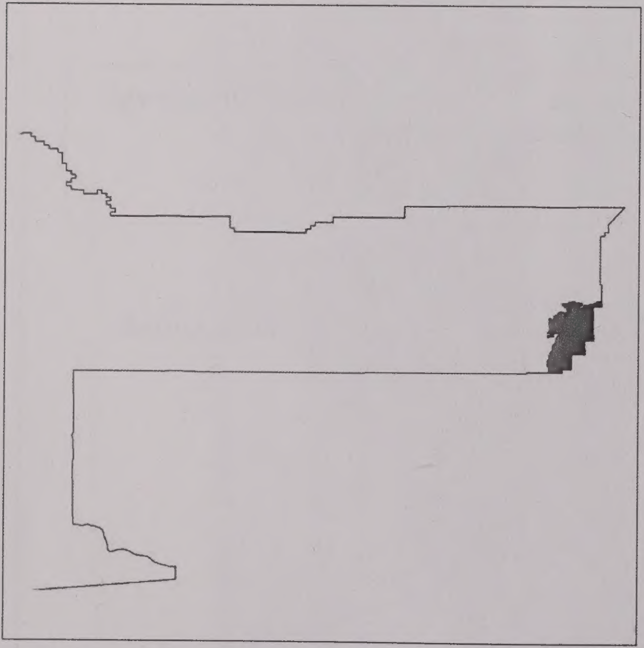
Scenic Quality Rating Unit: Blythe Valley

4. SCORE

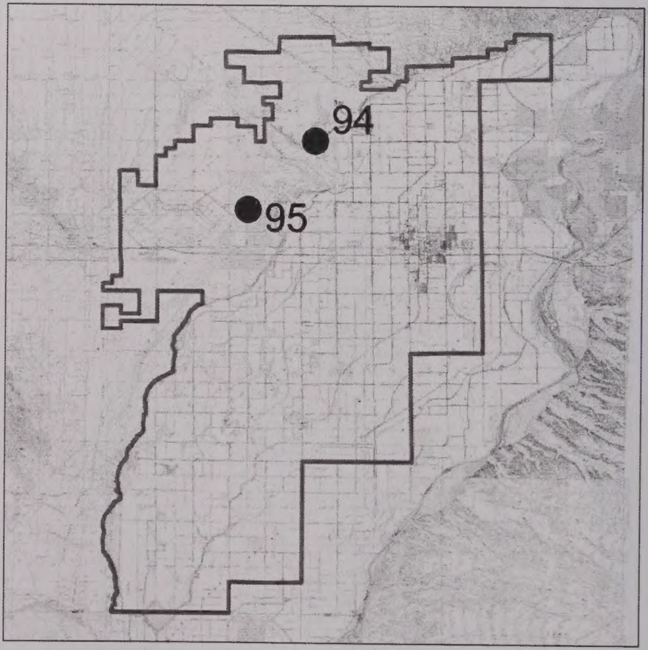
	Rating	EXPLANATION OR RATIONALE	SCENIC QUALITY CLASSIFICATION (check one)
a. Landform	1	Not much variety	☐ **A – 19 or more**
b. Vegetation	3	Some variety	☑ **B – 12 – 18**
c. Water	1	Minor presence	☐ **C – 11 or less**
d. Color	3	Some variation	
e. Adjacent Scenery	3.5	Enhances	
f. Scarcity	1	Common in area	☐ **Rehab**
g. Cultural Modification	0	Expected in this setting	☐ **Special Area**
TOTAL	12.5		

Comments:

None.



SQRU Locator



• IOP Location

Dylan Duverge

From: John_Kalish@blm.gov
Sent: Tuesday, August 10, 2010 4:39 PM
To: Dylan Duverge
Cc: Allison_Shaffer@blm.gov; Greg_Hill@blm.gov; Jennifer Johnson; Janna Scott; Ysmael_Wariner@blm.gov
Subject: Re: Interim VRM Class for the Blythe Solar Power Project

I concur with this. Thanks!

John R. Kalish, Field Manager
Bureau of Land Management
Palm Springs/South Coast Field Office
1201 Bird Center Drive
Palm Springs, CA 92262
(760) 833-7100 (FAX: 7199)

"Dylan Duverge" <DDuverge@esassoc.com>
08/08/2010 10:17 AM

To
<John_Kalish@blm.gov>
cc
<Allison_Shaffer@blm.gov>, <Greg_Hill@blm.gov>, <Ysmael_Wariner@blm.gov>, "Jennifer Johnson" <JJohnson@esassoc.com>, "Janna Scott" <JScott@esassoc.com>
Subject
Interim VRM Class for the Blythe Solar Power Project

Hi John,

Based on Greg's recent comments on the Blythe FEIS, I propose that the area be managed according to an Interim VRM Class III designation. This would apply only to the BSPP solar arrays and power block, which is outside the area covered by the Interim VRM Classes previously developed for the DPV No. 2 Project EIS. This recommendation is based on (1) the proposed project area was assessed as VRI Class III, and (2) the Multiple Use Class of the project area is "L" (limited), which allows for consideration of wind or solar electrical generation facilities after NEPA requirements are met.

Let me know if you concur.

Regards,

Dylan Duvergé
ESA | Water
225 Bush Street, Suite 1700
San Francisco, CA 94104
415.896.5900 | 415.962-8499 direct
dduverge@esassoc.com

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Figure A-1
KOP-1

Date 07/16/2010
District Palm Springs
Resource Area
Activity (program) Solar arrays, power blocks transmission lines, roads

SECTION A. PROJECT INFORMATION

1. Project Name Blythe Solar Power Project
2. Key Observation Point KOP-1
3. VRM Class Class III
4. Location
Township 5, 6 S
Range 21, 22 E
Section Multiple
5. Location See Figure 3

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat mesa, steep-sided and pyramidal mountainous backdrops	Irregular organic mosaics of shrubs and complex irregular patterns of woodland scrub trees and shrubs	Narrow planar roads
LINE	Complex horizontal, inclined, angular mix of mesa and mountains	Horizontal, curvilinear, inclined angular	Horizontal, curved, linear roads
COLOR	Light tans to dark, reddish browns	Light golds and tans to reddish browns and light sage greens	Light to medium tans of roads
TEX-TURE	Moderate mesa patterns, course mountain mosaics	Fine to moderate shrub patterns, moderate woodland scrub trees and shrubs	Fine roads

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Graded planar, horizontal	Removed	Planar solar arrays, cubed structures and rectangular t-lines
LINE	Graded horizontal	Removed	Horizontal solar arrays and vertical structures and t-lines
COLOR	Light tans to dark, reddish browns and blacks	Removed	Blue to grey solar arrays, Colvert Green structures and galvanized grey utilities
TEX-TURE	Smooth surfaces	Removed	Smooth arrays, and structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1.

DEGREE OF CONTRAST	FEATURES											
	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
ELEMENTS Form			x				x				x	
Line			x			x				x		
Color			x			x				x		
Texture			x				x				x	

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names Merlyn Paulson
Date 06/23/09

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Figure A-2
KOP-2

Date 07/17/2010

District Palm Springs

Resource Area

Activity (program) Solar arrays, power blocks transmission lines, roads

SECTION A. PROJECT INFORMATION

1. Project Name Blythe Solar Power Project	**4. Location** **Township** 5, 6 S **Range** 21, 22 E **Section** Multiple	**5. Location** See Figure 3
2. Key Observation Point KOP-2		
3. VRM Class Class III		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat mesa, steep-sided and pyramidal mountainous backdrops	Irregular organic mosaics of shrubs and complex irregular patterns of woodland scrub trees and shrubs	Narrow planar roads
LINE	Complex horizontal, inclined, angular mix of mesa and mountains	Horizontal, curvilinear, inclined angular	Horizontal, curved, linear roads
COLOR	Light tans to dark, reddish browns	Light golds and tans to reddish browns and light sage greens	Light to medium tans of roads
TEX-TURE	Moderate mesa patterns, course mountain mosaics	Fine to moderate shrub patterns, moderate woodland scrub trees and shrubs	Fine roads

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Graded planar, horizontal	Removed	Planar solar arrays, cubed structures and rectangular t-lines
LINE	Graded horizontal	Removed	Horizontal solar arrays and vertical structures and t-lines
COLOR	Light tans to dark, reddish browns and blacks	Removed	Blue to grey solar arrays, Colvert Green structures and galvanized grey utilities
TEX-TURE	Smooth surfaces	Removed	Smooth arrays, and structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1\.

DEGREE OF CONTRAST		FEATURES											
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
ELEMENTS	Form			x				x			x		
	Line			x			x				x		
	Color			x			x				x		
	Texture			x				x				x	

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names	Date
Merlyn Paulson	06/23/09

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(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Figure A-3
KOP-3

Date	07/17/2010
District	Palm Springs
Resource Area	
Activity (program)	Solar arrays, power blocks transmission lines, roads

SECTION A. PROJECT INFORMATION

1. Project Name Blythe Solar Power Project	**4. Location** **Township** 5, 6 S **Range** 21, 22 E **Section** Multiple	**5. Location** See Figure 3
2. Key Observation Point KOP-3		
3. VRM Class Class III		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat mesa, steep-sided and pyramidal mountainous backdrops	Irregular organic mosaics of shrubs and complex irregular patterns of woodland scrub trees and shrubs	Narrow planar roads and railroad; rectabnular buildings
LINE	Complex horizontal, inclined, angular mix of mesa and mountains	Horizontal, curvilinear, inclined angular	Horizontal, linear roads and railroad; horizontal and vertical structures
COLOR	Light tans to dark, reddish browns	Light golds and tans to reddish browns and light sage greens	Light to medium tans of roads; white structures
TEXTURE	Moderate mesa patterns, course mountain mosaics	Fine to moderate shrub patterns, moderate woodland scrub trees and shrubs	Fine roads, smooth structures

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Graded planar, horizontal	Removed	Planar solar arrays, cubed structures and rectangular t-lines
LINE	Graded horizontal	Removed	Horizontal solar arrays and vertical structures and t-lines
COLOR	Light tans to dark, reddish browns and blacks	Removed	Blue to grey solar arrays, Colvert Green structures and galvanized grey utilities
TEXTURE	Smooth surfaces	Removed	Smooth arrays, and structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST

		FEATURES											
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
ELEMENTS	Form			x				x				x	
	Line		x					x			x		
	Color			x				x			x		
	Texture			x				x				X	

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names	Date
Merlyn Paulson	06/23/10

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Figure A-4
KOP-4

Date 07/17/2010
District Palm Springs
Resource Area
Activity (program) Solar arrays, power blocks transmission lines, roads

SECTION A. PROJECT INFORMATION

1. **Project Name** Blythe Solar Power Project
2. **Key Observation Point** KOP-4
3. **VRM Class** Class III
4. **Location**
Township 5, 6 S
Range 21, 22 E
Section Multiple
5. **Location** See Figure 3

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat mesa, steep-sided and pyramidal mountainous backdrops	Irregular organic mosaics of shrubs and complex irregular patterns of woodland scrub trees and shrubs	Narrow planar roads and railroad; rectabnular buildings
LINE	Complex horizontal, inclined, angular mix of mesa and mountains	Horizontal, curvilinear, inclined angular	Horizontal, linear roads and railroad; horizontal and vertical structures
COLOR	Light tans to dark, reddish browns	Light golds and tans to reddish browns and light sage greens	Light to medium tans of roads; white structures
TEXTURE	Moderate mesa patterns, course mountain mosaics	Fine to moderate shrub patterns, moderate woodland scrub trees and shrubs	Fine roads, smooth structures

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Graded planar, horizontal	Removed	Planar solar arrays, cubed structures and rectangular t-lines
LINE	Graded horizontal	Removed	Horizontal solar arrays and vertical structures and t-lines
COLOR	Light tans to dark, reddish browns and blacks	Removed	Blue to grey solar arrays, Colvert Green structures and galvanized grey utilities
TEXTURE	Smooth surfaces	Removed	Smooth arrays, and structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1.

DEGREE OF CONTRAST	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
ELEMENTS	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Form			x				x				x	
Line		x					x			x		
Color			x				x			x		
Texture			x				x				x	

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names	Date
Merlyn Paulson	06/23/10

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(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Figure A-5
KOP-5

Date 07/17/2010

District Palm Springs

Resource Area

Activity (program) Solar arrays, power blocks transmission lines, roads

SECTION A. PROJECT INFORMATION

1. Project Name Blythe Solar Power Project

2. Key Observation Point KOP-5

3. VRM Class Class III

4. Location
Township 5, 6 S
Range 21, 22 E
Section Multiple

5. Location See Figure 3

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat mesa, steep-sided and pyramidal mountainous backdrops	Irregular organic mosaics of shrubs and complex irregular patterns of woodland scrub trees and shrubs	Wide planar runways; rectabnular buildings
LINE	Complex horizontal, inclined, angular mix of mesa and mountains	Horizontal, curvilinear, inclined angular	Horizontal, linear runways; horizontal and vertical structures
COLOR	Light tans to dark, reddish browns	Light golds and tans to reddish browns and light sage greens	Light to medium runways; white structures
TEXTURE	Moderate mesa patterns, course mountain mosaics	Fine to moderate shrub patterns, moderate woodland scrub trees and shrubs	Fine runways, smooth structures

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Graded planar, horizontal	Removed	Planar solar arrays, cubed structures and rectangular t-lines
LINE	Graded horizontal	Removed	Horizontal solar arrays and vertical structures and t-lines
COLOR	Light tans to dark, reddish browns and blacks	Removed	Blue to grey solar arrays, Colvert Green structures and galvanized grey utilities
TEXTURE	Smooth surfaces	Removed	Smooth arrays, and structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1\.

DEGREE OF CONTRAST	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
ELEMENTS	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Form			x				x				x	
Line			x				x			x		
Color			x				x			x		
Texture			x				x				x	

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names Merlyn Paulson
Date 06/23/09

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET
Figure A-6
KOP-6

Date 07/17/2010

District Palm Springs

Resource Area

Activity (program) Solar arrays, power blocks transmission lines, roads

SECTION A. PROJECT INFORMATION

1. Project Name Blythe Solar Power Project

2. Key Observation Point KOP-6

3. VRM Class Class II, III

4. Location
Township 5, 6 S
Range 21, 22 E
Section Multiple

5. Location See Figure 3

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat mesa, steep-sided and pyramidal mountainous backdrops	Irregular organic mosaics of shrubs and complex irregular patterns of woodland scrub trees and shrubs	Broad planar roadway (I-10); rectangular buildings and signage
LINE	Complex horizontal, inclined, angular mix of mesa and mountains	Horizontal, curvilinear, inclined angular	Horizontal, linear roadway (I-10); horizontal and vertical structures
COLOR	Light tans to dark, reddish browns	Light golds and tans to reddish browns and light sage greens	Light to dark grays of roadway; white and green structures
TEXTURE	Moderate mesa patterns, course mountain mosaics	Fine to moderate shrub patterns, moderate woodland scrub trees and shrubs	Fine roads, smooth structures

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	NA	NA	Cylindrical t-lines
LINE	NA	NA	Horizontal and vertical t-lines
COLOR	NA	NA	Galvanized grey t-lines
TEXTURE	NA	NA	Smooth structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1.

DEGREE OF CONTRAST	FEATURES											
	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
ELEMENTS	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Form				X				X		X		
Line				X				X	X			
Color				X				X			X	
Texture				X				X			X	

2. Does project design meet visual resource management objectives? ☐ Yes ☒ No (Explain on reverse side)

3. Additional mitigating measures recommended ☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names	Date
Merlyn Paulson	06/23/09

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET
Figure A-7
KOP-7

Date	07/17/2010
District	Palm Springs
Resource Area	
Activity (program)	Solar arrays, power blocks transmission lines, roads

SECTION A. PROJECT INFORMATION

1. Project Name Blythe Solar Power Project	**4. Location**	**5. Location**
2. Key Observation Point KOP-7	**Township** 5, 6 S **Range** 21, 22 E **Section** Multiple	See Figure 3
3. VRM Class Class II, III		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat mesa, steep-sided and pyramidal mountainous backdrops	Irregular organic mosaics of shrubs and complex irregular patterns of woodland scrub trees and shrubs	Broad planar roadway (I-10); rectangular buildings and signage
LINE	Complex horizontal, inclined, angular mix of mesa and mountains	Horizontal, curvilinear, inclined angular	Horizontal, linear roadway (I-10); horizontal and vertical structures
COLOR	Light tans to dark, reddish browns	Light golds and tans to reddish browns and light sage greens	Light to dark grays of roadway; white and green structures
TEXTURE	Moderate mesa patterns, course mountain mosaics	Fine to moderate shrub patterns, moderate woodland scrub trees and shrubs	Fine roads, smooth structures

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	NA	NA	Cylindrical t-lines
LINE	NA	NA	Horizontal and vertical t-lines
COLOR	NA	NA	Galvanized grey t-lines
TEXTURE	NA	NA	Smooth structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST

	FEATURES											
	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
ELEMENTS	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Form				x				x		x		
Line				x				x		x		
Color				x				x			x	
Texture				x				x			x	

2. Does project design meet visual resource management objectives? ☐ Yes ☒ No (Explain on reverse side)

3. Additional mitigating measures recommended ☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names	Date
Merlyn Paulson	06/23/09

APPENDIX G

Conditions of Certification

TABLE G-1
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GENERAL CONDITIONS		
COMPLIANCE-1 The CPM, responsible Energy Commission staff, and delegated agencies or consultants shall be guaranteed and granted unrestricted access to the power plant site, related facilities, project-related staff, and the records maintained on-site for the purpose of conducting audits, surveys, inspections, or general site visits. Although the CPM will normally schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time.		
COMPLIANCE-2 The project owner shall maintain project files on-site or at an alternative site approved by the CPM for the life of the project, unless a lesser period of time is specified by the conditions of certification. The files shall contain copies of all "as-built" drawings, documents submitted as verification for conditions, and other project-related documents. Energy Commission staff and delegate agencies shall, upon request to the project owner, be given unrestricted access to the files maintained pursuant to this condition.		
COMPLIANCE-3 Each condition of certification is followed by a means of verification. The verification describes the Energy Commission's procedure(s) to ensure post-certification compliance with adopted conditions. The verification procedures, unlike the conditions, may be modified as necessary by the CPM. Verification of compliance with the conditions of certification can be accomplished by the following: 1. monthly and/or annual compliance reports, filed by the project owner or authorized agent, reporting on work done and providing pertinent documentation, as required by the specific conditions of certification; 2. appropriate letters from delegate agencies verifying compliance; 3. energy Commission staff audits of project records; and/or 4. energy Commission staff inspections of work, or other evidence that the requirements are satisfied. Verification lead times associated with start of construction may require the project owner to file submittals during the certification process, particularly if construction is planned to commence shortly after certification. A cover letter from the project owner or authorized agent is required for all compliance submittals and correspondence pertaining to compliance matters. **The cover letter subject line shall identify the project by AFC number, the appropriate condition(s) of certification by condition number(s), and a brief description of the subject of the submittal**. The project owner shall also identify those submittals **not** required by a condition of certification with a statement such as: "This submittal is for information only and is not required by a specific condition of certification." When submitting supplementary or corrected information, the project owner shall reference the date of the previous submittal and CEC submittal number. The project owner is responsible for the delivery and content of all verification submittals to the CPM, whether such condition was satisfied by work performed by the project owner or an agent of the project owner.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GENERAL CONDITIONS (cont.)		
All hardcopy submittals shall be addressed as follows: Mary Dyas 09-AFC-6C California Energy Commission 1516 Ninth Street (MS-2000) Sacramento, CA 95814 Those submittals shall be accompanied by a searchable electronic copy, on a CD or by e-mail, as agreed upon by the CPM. If the project owner desires Energy Commission staff action by a specific date, that request shall be made in the submittal cover letter and shall include a detailed explanation of the effects on the project if that date is not met.		
COMPLIANCE-4 Prior to commencing construction, a compliance matrix addressing only those conditions that must be fulfilled before the start of construction shall be submitted by the project owner to the CPM. This matrix will be included with the project owner's first compliance submittal or prior to the first pre-construction meeting, whichever comes first. It will be submitted in the same format as the compliance matrix described below. Construction shall not commence until the pre-construction matrix is submitted, all pre-construction conditions have been complied with, and the CPM has issued a letter to the project owner authorizing construction. Various lead times for submittal of compliance verification documents to the CPM for conditions of certification are established to allow sufficient staff time to review and comment and, if necessary, allow the project owner to revise the submittal in a timely manner. This will ensure that project construction may proceed according to schedule. Failure to submit compliance documents within the specified lead-time may result in delays in authorization to commence various stages of project development. If the project owner anticipates commencing project construction as soon as the project is certified, it may be necessary for the project owner to file compliance submittals prior to project certification. Compliance submittals should be completed in advance where the necessary lead time for a required compliance event extends beyond the date anticipated for start of construction. The project owner must understand that the submittal of compliance documents prior to project certification is at the owner's own risk. Any approval by Energy Commission staff is subject to change, based upon the Commission Decision. Compliance Reporting: There are two different compliance reports that the project owner must submit to assist the CPM in tracking activities and monitoring compliance with the terms and conditions of the Energy Commission Decision. During construction, the project owner or authorized agent will submit Monthly Compliance Reports. During operation, an Annual Compliance Report must be submitted. These reports, and the requirement for an accompanying compliance matrix, are described below. The majority of the conditions of certification require that compliance submittals be submitted to the CPM in the monthly or annual compliance reports.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GENERAL CONDITIONS (cont.)		
COMPLIANCE-5 A compliance matrix shall be submitted by the project owner to the CPM along with each monthly and annual compliance report. The compliance matrix is intended to provide the CPM with the current status of all conditions of certification in a spreadsheet format. The compliance matrix must identify: 1. the technical area; 2. the condition number; 3. a brief description of the verification action or submittal required by the condition; 4. the date the submittal is required (e.g., 60 days prior to construction, after final inspection, etc.); 5. the expected or actual submittal date; 6. the date a submittal or action was approved by the Chief Building Official (CBO), CPM, or delegate agency, if applicable; 7. the compliance status of each condition, e.g., “not started,” “in progress” or “completed” (include the date); and 8. if the condition was amended, the date of the amendment. Satisfied conditions shall be placed at the end of the matrix.		
COMPLIANCE-6 The first Monthly Compliance Report is due one month following the Energy Commission business meeting date upon which the project was approved, unless otherwise agreed to by the CPM. The first Monthly Compliance Report shall include the AFC number and an initial list of dates for each of the events identified on the Key Events List. The Key Events List form is found at the end of these General Conditions. During pre-construction and construction of the project, the project owner or authorized agent shall submit an original and an electronic searchable version of the Monthly Compliance Report within 10 working days after the end of each reporting month. Monthly Compliance Reports shall be clearly identified for the month being reported. The reports shall contain, at a minimum: 1. a summary of the current project construction status, a revised/updated schedule if there are significant delays, and an explanation of any significant changes to the schedule; 2. documents required by specific conditions to be submitted along with the Monthly Compliance Report. Each of these items must be identified in the transmittal letter, as well as the conditions they satisfy and submitted as attachments to the Monthly Compliance Report; 3. an initial, and thereafter updated, compliance matrix showing the status of all conditions of certification; 4. a list of conditions that have been satisfied during the reporting period, and a description or reference to the actions that satisfied the condition; 5. a list of any submittal deadlines that were missed, accompanied by an explanation and an estimate of when the information will be provided;		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GENERAL CONDITIONS (cont.)		
6. a cumulative listing of any approved changes to conditions of certification; 7. a listing of any filings submitted to, or permits issued by, other governmental agencies during the month; 8. a projection of project compliance activities scheduled during the next two months. The project owner shall notify the CPM as soon as any changes are made to the project construction schedule that would affect compliance with conditions of certification; 9. a listing of the month's additions to the on-site compliance file; and 10. a listing of complaints, notices of violation, official warnings, and citations received during the month, a description of the resolution of the resolved actions, and the status of any unresolved actions. All sections, exhibits, or addendums shall be separated by tabbed dividers or as acceptable by the CPM.		
COMPLIANCE-7 After construction is complete, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports. The reports are for each year of commercial operation and are due to the CPM each year at a date agreed to by the CPM. Annual Compliance Reports shall be submitted over the life of the project, unless otherwise specified by the CPM. Each Annual Compliance Report shall include the AFC number, identify the reporting period, and shall contain the following: 1. an updated compliance matrix showing the status of all conditions of certification (fully satisfied conditions do not need to be included in the matrix after they have been reported as completed); 2. a summary of the current project operating status and an explanation of any significant changes to facility operations during the year; 3. documents required by specific conditions to be submitted along with the Annual Compliance Report. Each of these items must be identified in the transmittal letter with the condition it satisfies, and submitted as attachments to the Annual Compliance Report; 4. a cumulative listing of all post-certification changes approved by the Energy Commission or cleared by the CPM; 5. an explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided; 6. a listing of filings submitted to, or permits issued by, other governmental agencies during the year; 7. a projection of project compliance activities scheduled during the next year; 8. a listing of the year's additions to the on-site compliance file; 9. an evaluation of the on-site contingency plan for unplanned facility closure, including any suggestions necessary for bringing the plan up to date (see Compliance Conditions for Facility Closure addressed later in this section); and 10. a listing of complaints, notices of violation, official warnings, and citations received during the year, a description of the resolution of any resolved matters, and the status of any unresolved matters.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GENERAL CONDITIONS (cont.)		
COMPLIANCE-8 Any information that the project owner deems confidential shall be submitted to the Energy Commission's Executive Director with an application for confidentiality pursuant to Title 20, California Code of Regulations, section 2505(a). Any information that is determined to be confidential shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501, et. seq.		
COMPLIANCE-9 Prior to the start of construction, the project owner must send a letter to property owners living within one mile of the project notifying them of a telephone number to contact project representatives with questions, complaints, or concerns. If the telephone is not staffed 24 hours per day, it shall include automatic answering with a date and time stamp recording. All recorded complaints shall be responded to within 24 hours. The telephone number shall be posted at the project site and made easily visible to passersby during construction and operation. The telephone number shall be provided to the CPM who will post it on the Energy Commission's web page at http://www.energy.ca.gov/sitingcases/power_plants_contacts.html. Any changes to the telephone number shall be submitted immediately to the CPM, who will update the web page. In addition to the monthly and annual compliance reporting requirements described above, the project owner shall report and provide copies to the CPM of all complaint forms, including noise and lighting complaints, notices of violation, notices of fines, official warnings, and citations within 10 days of receipt. Complaints shall be logged and numbered. Noise complaints shall be recorded on the form provided in the NOISE conditions of certification. All other complaints shall be recorded on the complaint form (Attachment A).		
COMPLIANCE-10 In order to ensure that a planned facility closure does not create adverse impacts, a closure process that provides for careful consideration of available options and applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of closure will be undertaken. To ensure adequate review of a planned project closure, the project owner shall submit a proposed facility closure plan to the Energy Commission for review and approval at least 12 months (or other period of time agreed to by the CPM) prior to the commencement of closure activities. The project owner shall file 120 copies (or other number of copies agreed upon by the CPM) of a proposed facility closure plan with the Energy Commission. The plan shall: 1. identify and discuss any impacts and mitigation to address significant adverse impacts associated with proposed closure activities and to address facilities, equipment, or other project related remnants that will remain at the site; 2. identify a schedule of activities for closure of the power plant site, transmission line corridor, and all other appurtenant facilities constructed as part of the project; 3. identify any facilities or equipment intended to remain on site after closure, the reason, and any future use; and 4. address conformance of the plan with all applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of facility closure, and applicable conditions of certification.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GENERAL CONDITIONS (cont.)		
Prior to submittal of the proposed facility closure plan, a meeting shall be held between the project owner and the Energy Commission CPM for the purpose of discussing the specific contents of the plan. In the event that there are significant issues associated with the proposed facility closure plan's approval, or if the desires of local officials or interested parties are inconsistent with the plan, the CPM shall hold one or more workshops and/or the Energy Commission may hold public hearings as part of its approval procedure. As necessary, prior to or during the closure plan process, the project owner shall take appropriate steps to eliminate any immediate threats to public health and safety and the environment, but shall not commence any other closure activities until the Energy Commission approves the facility closure plan.		
COMPLIANCE-11 In order to ensure that public health and safety and the environment are protected in the event of an unplanned temporary facility closure, it is essential to have an on-site contingency plan in place. The on-site contingency plan will help to ensure that all necessary steps to mitigate public health and safety impacts and environmental impacts are taken in a timely manner. The project owner shall submit an on-site contingency plan for CPM review and approval. The plan shall be submitted no less than 60 days (or other time agreed to by the CPM) prior to commencement of commercial operation. The approved plan must be in place prior to commercial operation of the facility and shall be kept at the site at all times. The project owner, in consultation with the CPM, will update the on-site contingency plan as necessary. The CPM may require revisions to the on-site contingency plan over the life of the project. In the annual compliance reports submitted to the Energy Commission, the project owner will review the on-site contingency plan, and recommend changes to bring the plan up to date. Any changes to the plan must be approved by the CPM. The on-site contingency plan shall provide for taking immediate steps to secure the facility from trespassing or encroachment. In addition, for closures of more than 90 days, unless other arrangements are agreed to by the CPM, the plan shall provide for removal of hazardous materials and hazardous wastes, draining of all chemicals from storage tanks and other equipment, and the safe shutdown of all equipment. (Also see specific conditions of certification for the technical areas of **Hazardous Materials Management** and **Waste Management**) In addition, consistent with requirements under unplanned permanent closure addressed below, the nature and extent of insurance coverage, and major equipment warranties must also be included in the on-site contingency plan. In addition, the status of the insurance coverage and major equipment warranties must be updated in the annual compliance reports. In the event of an unplanned temporary closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, or e-mail, within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the circumstances and expected duration of the closure. If the CPM determines that an unplanned temporary closure is likely to be permanent, or for a duration of more than 12 months, a closure plan consistent with the requirements for a planned closure shall be developed and submitted to the CPM within 90 days of the CPM's determination (or other period of time agreed to by the CPM).	**Change:** A verification may be modified by the CPM without requesting an amendment to the decision if the change does not conflict with the conditions of certification and provides an effective alternate means of verification.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GENERAL CONDITIONS (cont.)		
COMPLIANCE-12 The on-site contingency plan required for unplanned temporary closure shall also cover unplanned permanent facility closure. All of the requirements specified for unplanned temporary closure shall also apply to unplanned permanent closure. In addition, the on-site contingency plan shall address how the project owner will ensure that all required closure steps will be successfully undertaken in the event of abandonment. In the event of an unplanned permanent closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, or e-mail within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the status of all closure activities. A closure plan, consistent with the requirements for a planned closure, shall be developed and submitted to the CPM within 90 days of the permanent closure or another period of time agreed to by the CPM.		
COMPLIANCE-13 The project owner must petition the Energy Commission pursuant to Title 20, California Code of Regulations, section 1769, in order to modify the project (including linear facilities) design, operation or performance requirements, and to transfer ownership or operational control of the facility. **It is the responsibility of the project owner to contact the CPM to determine if a proposed project change should be considered a project modification pursuant to section 1769.** Implementation of a project modification without first securing Energy Commission, or Energy Commission staff approval, may result in enforcement action that could result in civil penalties in accordance with section 25534 of the Public Resources Code. A petition is required for **amendments** and **for staff approved project modifications** as specified below. Both shall be filed as a "Petition to Amend." Staff will determine if the change is significant or insignificant. For verification changes, a letter from the project owner is sufficient. In all cases, the petition or letter requesting a change should be submitted to the CPM, who will file it with the Energy Commission's Dockets Unit in accordance with Title 20, California Code of Regulations, section 1209. The criteria that determine which type of approval and the process that applies are explained below. They reflect the provisions of Section 1769 at the time this condition was drafted. If the Commission's rules regarding amendments are amended, the rules in effect at the time an amendment is requested shall apply. Amendment: The project owner shall petition the Energy Commission, pursuant to Title 20, California Code of Regulations, Section 1769(a), when proposing modifications to the project (including linear facilities) design, operation, or performance requirements. If a proposed modification results in deletion or change of a condition of certification, or makes changes that would cause the project not to comply with any applicable laws, ordinances, regulations, or standards the petition will be processed as a formal amendment to the final decision, which requires public notice and review of the Energy Commission staff analysis and approval by the full Commission. The petition shall be in the form of a legal brief and fulfill the requirements of Section 1769(a). Upon request, the CPM will provide a sample petition to use as a template.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GENERAL CONDITIONS (cont.)		
Change of Ownership: Change of ownership or operational control also requires that the project owner file a petition pursuant to section 1769 (b). This process requires public notice and approval by the full Commission. The petition shall be in the form of a legal brief and fulfill the requirements of Section 1769(b). Upon request, the CPM will provide a sample petition to use as a template. Staff Approved Project Modification: Modifications that do not result in deletions or changes to conditions of certification, that are compliant with laws, ordinances, regulations and standards and will not have significant environmental impacts may be authorized by the CPM as a staff approved project modification pursuant to section 1769(a) (2). Once staff files an intention to approve the proposed project modifications, any person may file an objection to staff's determination within 14 days of service on the grounds that the modification does not meet the criteria of section 1769 (a)(2). If a person objects to staff's determination, the petition must be processed as a formal amendment to the decision and must be approved by the full commission at a noticed business meeting or hearing.		
FACILITY DESIGN		
GEN-1 The project owner shall design, construct, and inspect the project in accordance with the 2007 California Building Standards Code (CBSC), also known as Title 24, California Code of Regulations, which encompasses the California Building Code (CBC), California Building Standards Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California Reference Standards Code, and all other applicable engineering LORS in effect at the time initial design plans are submitted to the CBO for review and approval (the CBSC in effect is the edition that has been adopted by the California Building Standards Commission and published at least 180 days previously). The project owner shall ensure that all the provisions of the above applicable codes are enforced during the construction, addition, alteration, moving, demolition, repair, or maintenance of the completed facility. All transmission facilities (lines, switchyards, switching stations and substations) are covered in the conditions of certification in the **Transmission System Engineering** section of this document. In the event that the initial engineering designs are submitted to the CBO when the successor to the 2007 CBSC is in effect, the 2007 CBSC provisions shall be replaced with the applicable successor provisions. Where, in any specific case, different sections of the code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern. The project owner shall ensure that all contracts with contractors, subcontractors, and suppliers clearly specify that all work performed and materials supplied comply with the codes listed above.	Within 30 days following receipt of the certificate of occupancy, the project owner shall submit to the CPM a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation, and inspection requirements of the applicable LORS and the Energy Commission's decision have been met in the area of facility design. The project owner shall provide the CPM a copy of the certificate of occupancy within 30 days of receipt from the CBO. Once the certificate of occupancy has been issued, the project owner shall inform the CPM at least 30 days prior to any construction, addition, alteration, moving, demolition, repair, or maintenance to be performed on any portion(s) of the completed facility that requires CBO approval for compliance with the above codes. The CPM will then determine if the CBO needs to approve the work.	
GEN-2 Before submitting the initial engineering designs for CBO review, the project owner shall furnish the CPM and the CBO with a schedule of facility design submittals, and master drawing and master specifications lists. The schedule shall contain a list of proposed submittal packages of designs, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide specific packages to the CPM upon request.	At least 60 days (or a project owner- and CBO-approved alternative time frame) prior to the start of rough grading, the project owner shall submit to the CBO and to the CPM the schedule, the master drawing and master specifications lists of documents to be	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
	submitted to the CBO for review and approval. These documents shall be the pertinent design documents for the major structures and equipment listed in **Facility Design Table 2**, below. Major structures and equipment shall be added to or deleted from the table only with CPM approval. The project owner shall provide schedule updates in the monthly compliance report.	
GEN-3 The project owner shall make payments to the CBO for design review, plan checks, and construction inspections, based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. These fees may be consistent with the fees listed in the 2007 CBC, adjusted for inflation and other appropriate adjustments; may be based on the value of the facilities reviewed; may be based on hourly rates; or may be otherwise agreed upon by the project owner and the CBO.	The project owner shall make the required payments to the CBO in accordance with the agreement between the project owner and the CBO. The project owner shall send a copy of the CBO's receipt of payment to the CPM in the next monthly compliance report indicating that applicable fees have been paid.	
GEN-4 Prior to the start of rough grading, the project owner shall assign a California- registered architect, or a structural or civil engineer, as the resident engineer (RE) in charge of the project. All transmission facilities (lines, switchyards, switching stations, and substations) are addressed in the conditions of certification in the **Transmission System Engineering** section of this document. The RE may delegate responsibility for portions of the project to other registered engineers. Registered mechanical and electrical engineers may be delegated responsibility for mechanical and electrical portions of the project, respectively. A project may be divided into parts, provided that each part is clearly defined as a distinct unit. Separate assignments of general responsibility may be made for each designated part. The RE shall: 1. Monitor progress of construction work requiring CBO design review and inspection to ensure compliance with LORS; 2. Ensure that construction of all facilities subject to CBO design review and inspection conforms in every material respect to applicable LORS, these conditions of certification, approved plans, and specifications; 3. Prepare documents to initiate changes in approved drawings and specifications when either directed by the project owner or as required by the conditions of the project; 4. Be responsible for providing project inspectors and testing agencies with complete and up-to-date sets of stamped drawings, plans, specifications, and any other required documents; 5. Be responsible for the timely submittal of construction progress reports to the CBO from the project inspectors, the contractor, and other engineers who have been delegated responsibility for portions of the project; and 6. Be responsible for notifying the CBO of corrective action or the disposition of items noted on laboratory reports or other tests when they do not conform to approved plans and specifications.	At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the resume and registration number of the RE and any other delegated engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the RE and other delegated engineer(s) within five days of the approval. If the RE or the delegated engineer(s) is subsequently reassigned or replaced, the project owner has five days to submit the resume and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
The resident engineer (or his delegate) must be located at the project site, or be available at the project site within a reasonable period of time, during any hours in which construction takes place. The RE shall have the authority to halt construction and to require changes or remedial work if the work does not meet requirements. If the RE or the delegated engineers are reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.		
GEN-5 Prior to the start of rough grading, the project owner shall assign at least one of each of the following California registered engineers to the project: a civil engineer; a soils, geotechnical, or civil engineer experienced and knowledgeable in the practice of soils engineering; and an engineering geologist. Prior to the start of construction, the project owner shall assign at least one of each of the following California registered engineers to the project: a design engineer who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; a mechanical engineer; and an electrical engineer. (California Business and Professions Code section 6704 et seq., and sections 6730, 6731 and 6736 require state registration to practice as a civil engineer or structural engineer in California). All transmission facilities (lines, switchyards, switching stations, and substations) are handled in the conditions of certification in the **Transmission System Engineering** section of this document. The tasks performed by the civil, mechanical, electrical, or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (for example, proposed earthwork, civil structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer. The project owner shall submit, to the CBO for review and approval, the names, qualifications, and registration numbers of all responsible engineers assigned to the project. If any one of the designated responsible engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned responsible engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer. A. The civil engineer shall: 1. Review the foundation investigations, geotechnical, or soils reports prepared by the soils engineer, the geotechnical engineer, or by a civil engineer experienced and knowledgeable in the practice of soils engineering; 2. Design (or be responsible for the design of), stamp, and sign all plans, calculations, and specifications for proposed site work, civil works, and related facilities requiring design review and inspection by the CBO. At a minimum, these include: grading, site preparation, excavation, compaction, construction of secondary containment, foundations, erosion and sedimentation control structures, drainage facilities, underground utilities, culverts, site access roads and sanitary sewer systems; and 3. Provide consultation to the RE during the construction phase of the project and recommend changes in the design of the civil works facilities and changes to the construction procedures.	At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, resumes and registration numbers of the responsible civil engineer, soils (geotechnical) engineer and engineering geologist assigned to the project. At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of construction, the project owner shall submit to the CBO for review and approval, resumes and registration numbers of the responsible design engineer, mechanical engineer, and electrical engineer assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the responsible engineers within five days of the approval. If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the resume and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
B. The soils engineer, geotechnical engineer, or civil engineer experienced and knowledgeable in the practice of soils engineering, shall: 1. Review all the engineering geology reports; 2. Prepare the foundation investigations, geotechnical, or soils reports containing field exploration reports, laboratory tests, and engineering analysis detailing the nature and extent of the soils that could be susceptible to liquefaction, rapid settlement or collapse when saturated under load; 3. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with requirements set forth in the 2007 CBC (depending on the site conditions, this may be the responsibility of either the soils engineer, the engineering geologist, or both); and 4. Recommend field changes to the civil engineer and RE. This engineer shall be authorized to halt earthwork and to require changes if site conditions are unsafe or do not conform to the predicted conditions used as the basis for design of earthwork or foundations. C. The engineering geologist shall: 1. Review all the engineering geology reports and prepare a final soils grading report; and 2. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in the 2007 CBC (depending on the site conditions, this may be the responsibility of either the soils engineer, the engineering geologist, or both). D. The design engineer shall: 1. Be directly responsible for the design of the proposed structures and equipment supports; 2. Provide consultation to the RE during design and construction of the project; 3. Monitor construction progress to ensure compliance with engineering LORS; 4. Evaluate and recommend necessary changes in design; and 5. Prepare and sign all major building plans, specifications, and calculations. E. The mechanical engineer shall be responsible for, and sign and stamp a statement with, each mechanical submittal to the CBO, stating that the proposed final design plans, specifications, and calculations conform to all of the mechanical engineering design requirements set forth in the Energy Commission's decision. F. The electrical engineer shall: 1. Be responsible for the electrical design of the project; and 2. Sign and stamp electrical design drawings, plans, specifications, and calculations.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
GEN-6 Prior to the start of an activity requiring special inspection, including prefabricated assemblies, the project owner shall assign to the project, qualified and certified special inspector(s) who shall be responsible for the special inspections required by the 2007 CBC. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in conditions of certification in **the Transmission System Engineering** section of this document. A certified weld inspector, certified by the American Welding Society (AWS), and/or American Society of Mechanical Engineers (ASME) as applicable, shall inspect welding performed on-site requiring special inspection (including structural, piping, tanks and pressure vessels). The special inspector shall: 1. Be a qualified person who shall demonstrate competence, to the satisfaction of the CBO, for inspection of the particular type of construction requiring special or continuous inspection; 2. Inspect the work assigned for conformance with the approved design drawings and specifications; 3. Furnish inspection reports to the CBO and RE. All discrepancies shall be brought to the immediate attention of the RE for correction, then, if uncorrected, to the CBO and the CPM for corrective action; and 4. Submit a final signed report to the RE, CBO, and CPM, stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans, specifications, and other provisions of the applicable edition of the CBC.	At least 15 days (or project owner- and CBO-approved alternative time frame) prior to the start of an activity requiring special inspection, the project owner shall submit to the CBO for review and approval, with a copy to the CPM, the name(s) and qualifications of the certified weld inspector(s), or other certified special inspector(s) assigned to the project to perform one or more of the duties set forth above. The project owner shall also submit to the CPM a copy of the CBO's approval of the qualifications of all special inspectors in the next monthly compliance report. If the special inspector is subsequently reassigned or replaced, the project owner has five days in which to submit the name and qualifications of the newly assigned special inspector to the CBO for approval. The project owner shall notify the CPM of the CBO's approval of the newly assigned inspector within five days of the approval.	
GEN-7 If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend required corrective actions. The discrepancy documentation shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this condition of certification and, if appropriate, applicable sections of the CBC and/or other LORS.	The project owner shall transmit a copy of the CBO's approval of any corrective action taken to resolve a discrepancy to the CPM in the next monthly compliance report. If any corrective action is disapproved, the project owner shall advise the CPM, within five days, of the reason for disapproval and the revised corrective action to obtain CBO's approval.	
GEN-8 The project owner shall obtain the CBO's final approval of all completed work that has undergone CBO design review and approval. The project owner shall request the CBO to inspect the completed structure and review the submitted documents. The project owner shall notify the CPM after obtaining the CBO's final approval. The project owner shall retain one set of approved engineering plans, specifications, and calculations (including all approved changes) at the project site or at another accessible location during the operating life of the project. Electronic copies of the approved plans, specifications, calculations, and marked-up as-builts shall be provided to the CBO for retention by the CPM.	Within 15 days of the completion of any work, the project owner shall submit to the CBO, with a copy to the CPM, in the next monthly compliance report, (a) a written notice that the completed work is ready for final inspection, and (b) a signed statement that the work conforms to the final approved plans. After storing the final approved engineering plans, specifications, and calculations described above, the project owner shall submit to the CPM a letter stating both that the above documents have been stored and the storage location of those documents.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
	Within 90 days of the completion of construction, the project owner shall provide to the CBO three sets of electronic copies of the above documents at the project owner's expense. These are to be provided in the form of "read only" (Adobe .pdf 6.0) files, with restricted (password-protected) printing privileges, on archive quality compact discs.	
CIVIL-1 The project owner shall submit to the CBO for review and approval the following: 1. Design of the proposed drainage structures and the grading plan; 2. An erosion and sedimentation control plan; 3. Related calculations and specifications, signed and stamped by the responsible civil engineer; and 4. Soils, geotechnical, or foundation investigations reports required by the 2007 CBC.	At least 15 days (or project owner- and CBO-approved alternative time frame) prior to the start of site grading the project owner shall submit the documents described above to the CBO for design review and approval. In the next monthly compliance report following the CBO's approval, the project owner shall submit a written statement certifying that the documents have been approved by the CBO.	
CIVIL-2 The resident engineer shall, if appropriate, stop all earthwork and construction in the affected areas when the responsible soils engineer, geotechnical engineer, or the civil engineer experienced and knowledgeable in the practice of soils engineering identifies unforeseen adverse soil or geologic conditions. The project owner shall submit modified plans, specifications, and calculations to the CBO based on these new conditions. The project owner shall obtain approval from the CBO before resuming earthwork and construction in the affected area.	The project owner shall notify the CPM within 24 hours, when earthwork and construction is stopped as a result of unforeseen adverse geologic/soil conditions. Within 24 hours of the CBO's approval to resume earthwork and construction in the affected areas, the project owner shall provide to the CPM a copy of the CBO's approval.	
CIVIL-3 The project owner shall perform inspections in accordance with the 2007 CBC. All plant site-grading operations, for which a grading permit is required, shall be subject to inspection by the CBO. If, in the course of inspection, it is discovered that the work is not being performed in accordance with the approved plans, the discrepancies shall be reported immediately to the resident engineer, the CBO, and the CPM. The project owner shall prepare a written report, with copies to the CBO and the CPM, detailing all discrepancies, non-compliance items, and the proposed corrective action.	Within five days of the discovery of any discrepancies, the resident engineer shall transmit to the CBO and the CPM a non-conformance report (NCR), and the proposed corrective action for review and approval. Within five days of resolution of the NCR, the project owner shall submit the details of the corrective action to the CBO and the CPM. A list of NCRs, for the reporting month, shall also be included in the following monthly compliance report.	
CIVIL-4 After completion of finished grading and erosion and sedimentation control and drainage work, the project owner shall obtain the CBO's approval of the final grading plans (including final changes) for the erosion and sedimentation control work. The civil engineer shall state that the work within his/her area of responsibility was done in accordance with the final approved plans.	Within 30 days (or project owner- and CBO-approved alternative time frame) of the completion of the erosion and sediment control mitigation and drainage work, the project owner shall submit to the CBO, for review and	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
	approval, the final grading plans (including final changes) and the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes, along with a copy of the transmittal letter to the CPM. The project owner shall submit a copy of the CBO's approval to the CPM in the next monthly compliance report.	
STRUC-1 Prior to the start of any increment of construction of any major structure or component listed in **Facility Design Table 2** of condition of certification **GEN-2**, above, the project owner shall submit to the CBO for design review and approval the proposed lateral force procedures for project structures and the applicable designs, plans and drawings for project structures. Proposed lateral force procedures, designs, plans and drawings shall be those for the following items (from **Table 2**, above): 1. Major project structures; 2. Major foundations, equipment supports, and anchorage; and 3. Large field-fabricated tanks. Construction of any structure or component shall not begin until the CBO has approved the lateral force procedures to be employed in designing that structure or component. The project owner shall: 1. Obtain approval from the CBO of lateral force procedures proposed for project structures; 2. Obtain approval from the CBO for the final design plans, specifications, calculations, soils reports, and applicable quality control procedures. If there are conflicting requirements, the more stringent shall govern (for example, highest loads, or lowest allowable stresses shall govern). All plans, calculations, and specifications for foundations that support structures shall be filed concurrently with the structure plans, calculations, and specifications; 3. Submit to the CBO the required number of copies of the structural plans, specifications, calculations, and other required documents of the designated major structures prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation; 4. Ensure that the final plans, calculations, and specifications clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design. The final designs, plans, calculations, and specifications shall be signed and stamped by the responsible design engineer; and 5. Submit to the CBO the responsible design engineer's signed statement that the final design plans conform to applicable LORS.	At least 60 days (or project owner- and CBO-approved alternative time frame) prior to the start of any increment of construction of any structure or component listed in **Facility Design Table 2** of condition of certification GEN-2,above, the project owner shall submit to the CBO the above final design plans, specifications and calculations, with a copy of the transmittal letter to the CPM. The project owner shall submit to the CPM, in the next monthly compliance report, a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and comply with the requirements set forth in applicable engineering LORS.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
STRUC-2 The project owner shall submit to the CBO the required number of sets of the following documents related to work that has undergone CBO design review and approval: 1. Concrete cylinder strength test reports (including date of testing, date sample taken, design concrete strength, tested cylinder strength, age of test, type and size of sample, location and quantity of concrete placement from which sample was taken, and mix design designation and parameters); 2. Concrete pour sign-off sheets; 3. Bolt torque inspection reports (including location of test, date, bolt size, and recorded torques); 4. Field weld inspection reports (including type of weld, location of weld, inspection of non-destructive testing (NDT) procedure and results, welder qualifications, certifications, qualified procedure description or number (ref: AWS); and 5. Reports covering other structural activities requiring special inspections shall be in accordance with the 2007 CBC.	If a discrepancy is discovered in any of the above data, the project owner shall, within five days, prepare and submit an NCR describing the nature of the discrepancies and the proposed corrective action to the CBO, with a copy of the transmittal letter to the CPM. The NCR shall reference the condition(s) of certification and the applicable CBC chapter and section. Within five days of resolution of the NCR, the project owner shall submit a copy of the corrective action to the CBO and the CPM. The project owner shall transmit a copy of the CBO's approval or disapproval of the corrective action to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action to obtain CBO's approval.	
STRUC-3 The project owner shall submit to the CBO design changes to the final plans required by the 2007 CBC, including the revised drawings, specifications, calculations, and a complete description of, and supporting rationale for, the proposed changes, and shall give to the CBO prior notice of the intended filing.	On a schedule suitable to the CBO, the project owner shall notify the CBO of the intended filing of design changes, and shall submit the required number of sets of revised drawings and the required number of copies of the other above-mentioned documents to the CBO, with a copy of the transmittal letter to the CPM. The project owner shall notify the CPM, via the monthly compliance report, when the CBO has approved the revised plans.	
STRUC-4 Tanks and vessels containing quantities of toxic or hazardous materials exceeding amounts specified in the 2007 CBC shall, at a minimum, be designed to comply with the requirements of that chapter.	At least 30 days (or project owner- and CBO-approved alternate time frame) prior to the start of installation of the tanks or vessels containing the above specified quantities of toxic or hazardous materials, the project owner shall submit to the CBO for design review and approval final design plans, specifications, and calculations, including a copy of the signed and stamped engineer's certification. The project owner shall send copies of the CBO approvals of plan checks to the CPM in the following monthly compliance report. The project owner shall also transmit a copy of the CBO's inspection approvals to the CPM in the monthly compliance report following completion of any inspection.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
MECH-1 The project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations for each plant major piping and plumbing system listed **in Facility Design Table 2**, condition of certification **GEN-2**, above. Physical layout drawings and drawings not related to code compliance and life safety need not be submitted. The submittal shall also include the applicable QA/QC procedures. Upon completion of construction of any such major piping or plumbing system, the project owner shall request the CBO's inspection approval of that construction. The responsible mechanical engineer shall stamp and sign all plans, drawings, and calculations for the major piping and plumbing systems, subject to CBO design review and approval, and submit a signed statement to the CBO when the proposed piping and plumbing systems have been designed, fabricated, and installed in accordance with all of the applicable laws, ordinances, regulations and industry standards, which may include, but are not limited to: American National Standards Institute (ANSI) B31.1 (Power Piping Code); 1. ANSI B31.2 (Fuel Gas Piping Code); 2. ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping Code); 3. ANSI B31.8 (Gas Transmission and Distribution Piping Code); 4. Title 24, California Code of Regulations, Part 5 (California Plumbing Code); 5. Title 24, California Code of Regulations, Part 6 (California Energy Code, for building energy conservation systems and temperature control and ventilation systems); 6. Title 24, California Code of Regulations, Part 2 (California Building Code); and 7. Riverside County codes. The CBO may deputize inspectors to carry out the functions of the code enforcement agency.	At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of any increment of major piping or plumbing construction listed in **Facility Design Table 2**, condition of certification **GEN-2**, above, the project owner shall submit to the CBO for design review and approval the final plans, specifications, and calculations, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with applicable LORS, and shall send the CPM a copy of the transmittal letter in the next monthly compliance report. The project owner shall transmit to the CPM, in the monthly compliance report following completion of any inspection, a copy of the transmittal letter conveying the CBO's inspection approvals.	
MECH-2 For all pressure vessels installed in the plant, the project owner shall submit to the CBO and California Occupational Safety and Health Administration (Cal-OSHA), prior to operation, the code certification papers and other documents required by applicable LORS. Upon completion of the installation of any pressure vessel, the project owner shall request the appropriate CBO and/or Cal-OSHA inspection of that installation. The project owner shall: 1. Ensure that all boilers and fired and unfired pressure vessels are designed, fabricated, and installed in accordance with the appropriate section of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, or other applicable code. Vendor certification, with identification of applicable code, shall be submitted for prefabricated vessels and tanks; and 2. Have the responsible design engineer submit a statement to the CBO that the proposed final design plans, specifications, and calculations conform to all of the requirements set forth in the appropriate ASME Boiler and Pressure Vessel Code or other applicable codes.	At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of on-site fabrication or installation of any pressure vessel, the project owner shall submit to the CBO for design review and approval, the above listed documents, including a copy of the signed and stamped engineer's certification, with a copy of the transmittal letter to the CPM. The project owner shall transmit to the CPM, in the monthly compliance report following completion of any inspection, a copy of the transmittal letter conveying the CBO's and/or Cal-OSHA inspection approvals.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
MECH-3 The project owner shall submit to the CBO for design review and approval the design plans, specifications, calculations, and quality control procedures for any heating, ventilating, air conditioning (HVAC) or refrigeration system. Packaged HVAC systems, where used, shall be identified with the appropriate manufacturer's data sheets. The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the CBC and other applicable codes. Upon completion of any increment of construction, the project owner shall request the CBO's inspection and approval of that construction. The final plans, specifications and calculations shall include approved criteria, assumptions, and methods used to develop the design. In addition, the responsible mechanical engineer shall sign and stamp all plans, drawings and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications and calculations conform with the applicable LORS.	At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of construction of any HVAC or refrigeration system, the project owner shall submit to the CBO the required HVAC and refrigeration calculations, plans, and specifications, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the CBC and other applicable codes, with a copy of the transmittal letter to the CPM.	
ELEC-1 Prior to the start of any increment of electrical construction for all electrical equipment and systems 480 Volts or higher (see a representative list, below), with the exception of underground duct work and any physical layout drawings and drawings not related to code compliance and life safety, the project owner shall submit, for CBO design review and approval, the proposed final design, specifications, and calculations. Upon approval, the above listed plans, together with design changes and design change notices, shall remain on the site or at another accessible location for the operating life of the project. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in conditions of certification in the **Transmission System Engineering** section of this document. A. Final plant design plans shall include: 1. one-line diagrams for the 13.8 kV, 4.16 kV and 480 V systems; and 2. system grounding drawings. B. Final plant calculations must establish: 1. short-circuit ratings of plant equipment; 2. ampacity of feeder cables; 3. voltage drop in feeder cables; 4. system grounding requirements; 5. coordination study calculations for fuses, circuit breakers and protective relay settings for the 13.8 kV, 4.16 kV and 480 V systems; 6. system grounding requirements; and 7. lighting energy calculations. C. The following activities shall be reported to the CPM in the monthly compliance report: 1. Receipt or delay of major electrical equipment;	At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of each increment of electrical construction, the project owner shall submit to the CBO for design review and approval the above listed documents. The project owner shall include in this submittal a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next monthly compliance report.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
2. Testing or energization of major electrical equipment; and 3. A signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Energy Commission decision.		
AIR QUALITY		
AQ-SC1 Air Quality Construction Mitigation Manager (AQCMM): The project owner shall designate and retain an on-site AQCMM who shall be responsible for directing and documenting compliance with Conditions of Certification **AQ-SC3**, **AQ-SC4** and **AQ-SC5** for the entire project site and linear facility construction. The on-site AQCMM may delegate responsibilities to one or more AQCMM Delegates. The AQCMM and AQCMM Delegates shall have full access to all areas of construction on the project site and linear facilities, and shall have the authority to stop any or all construction activities as warranted by applicable construction mitigation conditions. The AQCMM and AQCMM Delegates may have other responsibilities in addition to those described in this condition. The AQCMM shall not be terminated without written consent of the Compliance Project Manager (CPM).	At least 30 days prior to the start of ground disturbance, the project owner shall submit to the CPM for approval, the name, resume, qualifications, and contact information for the on-site AQCMM and all AQCMM Delegates.	CEC/BLM
AQ-SC2 Air Quality Construction Mitigation Plan (AQCMP): The project owner shall provide an AQCMP, for approval, which details the steps that will be taken and the reporting requirements necessary to ensure compliance with Conditions of Certification **AQ-SC3**, **AQ-SC4,** and **AQ-SC5**.	At least 30 days prior to the start of any ground disturbance, the project owner shall submit the AQCMP to the CPM for approval. The AQCMP shall include effectiveness and environmental data for the proposed soil stabilizer. The CPM will notify the project owner of any necessary modifications to the plan within 15 days from the date of receipt.	CEC/BLM
AQ-SC3 Construction Fugitive Dust Control: The AQCMM shall submit documentation to the CPM in each Monthly Compliance Report that demonstrates compliance with the Air Quality Construction Mitigation Plan (AQCMP) mitigation measures for the purposes of minimizing fugitive dust emission creation from construction activities and preventing all fugitive dust plumes that would not comply with the performance standards identified in **AQ-SC4** from leaving the project site. The following fugitive dust mitigation measures shall be included in the Air Quality Construction Mitigation Plan (AQCMP) required by **AQ-SC2**, and any deviation from the AQCMP mitigation measures shall require prior CPM notification and approval. a. The main access roads through the facility to the power block areas will be either paved or stabilized using soil binders, or equivalent methods, to provide a stabilized surface that is similar for the purposes of dust control to paving, that may or may not include a crushed rock (gravel or similar material with fines removed) top layer, prior to initiating construction in the main power block area, and delivery areas for operations materials (chemicals, replacement parts, etc.) will be paved or treated prior to taking initial deliveries. b. All unpaved construction roads and unpaved operation and maintenance site roads, as they are being constructed, shall be stabilized with a non-toxic soil stabilizer or soil weighting agent that can be determined to be both as efficient or more efficient for fugitive dust control as ARB approved soil stabilizers, and shall not increase any other environmental impacts including loss of vegetation to areas beyond where the soil stabilizers are being applied for dust control. All other	The AQCMM shall provide the CPM a Monthly Compliance Report to include the following to demonstrate control of fugitive dust emissions: A. A summary of all actions taken to maintain compliance with this condition; B. Copies of any complaints filed with the District in relation to project construction; and C. Any other documentation deemed necessary by the CPM or AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
disturbed areas in the project and linear construction sites shall be watered as frequently as necessary during grading (consistent with BIO-7); and after active construction activities shall be stabilized with a non-toxic soil stabilizer or soil weighting agent, or alternative approved soil stabilizing methods, in order to comply with the dust mitigation objectives of Condition of Certification AQ-SC4. The frequency of watering can be reduced or eliminated during periods of precipitation. c. No vehicle shall exceed 10 miles per hour on unpaved areas within the construction site, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions. d. Visible speed limit signs shall be posted at the construction site entrances. e. All construction equipment vehicle tires shall be inspected and washed as necessary to be cleaned free of dirt prior to entering paved roadways. f. Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station. g. All unpaved exits from the construction site shall be graveled or treated to prevent track-out to public roadways. h. All construction vehicles shall enter the construction site through the treated entrance roadways, unless an alternative route has been submitted to and approved by the CPM. i. Construction areas adjacent to any paved roadway below the grade of the surrounding construction area or otherwise directly impacted by sediment from site drainage shall be provided with sandbags or other equivalently effective measures to prevent run-off to roadways, or other similar run-off control measures as specified in the Storm Water Pollution Prevention Plan (SWPPP), only when such SWPPP measures are necessary so that this condition does not conflict with the requirements of the SWPPP. j. All paved roads within the construction site shall be swept daily or as needed (less during periods of precipitation) on days when construction activity occurs to prevent the accumulation of dirt and debris. k. At least the first 500 feet of any paved public roadway exiting the construction site or exiting other unpaved roads en route from the construction site or construction staging areas shall be swept as needed (less during periods of precipitation) on days when construction activity occurs or on any other day when dirt or runoff resulting from the construction site activities is visible on the public paved roadways. l. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or shall be treated with appropriate dust suppressant compounds. m. All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard. n. Wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) shall be used on all construction areas that may be disturbed. Any windbreaks installed to comply with this condition shall remain in place until the soil is stabilized or permanently covered with vegetation.		CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
AQ-SC4 Dust Plume Response Requirement: The AQCMM or an AQCMM Delegate shall monitor all construction activities for visible dust plumes. Observations of visible dust plumes that have the potential to be transported (A) off the project site and within 400 feet upwind of any regularly occupied structures not owned by the project owner or (B) 200 feet beyond the centerline of the construction of linear facilities~~,~~ indicate that existing mitigation measures are not resulting in effective mitigation. The AQCMP shall include a section detailing how the additional mitigation measures will be accomplished within the time limits specified. The AQCMM or Delegate shall implement the following procedures for additional mitigation measures in the event that such visible dust plumes are observed: Step 1: The AQCMM or Delegate shall direct more intensive application of the existing mitigation methods within 15 minutes of making such a determination. Step 2: The AQCMM or Delegate shall direct implementation of additional methods of dust suppression if Step 1, specified above, fails to result in adequate mitigation within 30 minutes of the original determination. Step 3: The AQCMM or Delegate shall direct a temporary shutdown of the activity causing the emissions if Step 2, specified above, fails to result in effective mitigation within one hour of the original determination. The activity shall not restart until the AQCMM or Delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes will not result upon restarting the shutdown source. The owner/operator may appeal to the CPM any directive from the AQCMM or Delegate to shut down an activity, if the shutdown shall go into effect within one hour of the original determination, unless overruled by the CPM before that time.	The AQCMM shall provide the CPM a Monthly Compliance Report to include: A. A summary of all actions taken to maintain compliance with this condition; B. Copies of any complaints filed with the District in relation to project construction; and C. Any other documentation deemed necessary by the CPM or AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.	CEC/BLM
AQ-SC5 Diesel-Fueled Engine Control: The AQCMM shall submit to the CPM, in the Monthly Compliance Report, a construction mitigation report that demonstrates compliance with the AQCMP mitigation measures for purposes of controlling diesel construction-related emissions. The following off-road diesel construction equipment mitigation measures shall be included in the Air Quality Construction Mitigation Plan (AQCMP) required by **AQ-SC2**, and any deviation from the AQCMP mitigation measures shall require prior and CPM notification and approval. a. All diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCM showing that the engine meets the conditions set forth herein. b. All construction diesel engines with a rating of 50 hp or higher shall meet, at a minimum, the Tier 3 California Emission Standards for Off-Road Compression-Ignition Engines, as specified in California Code of Regulations, Title 13, section 2423(b)(1), unless a good faith effort to the satisfaction of the CPM that is certified by the on-site AQCMM demonstrates that such engine is not available for a particular item of equipment. In the event that a Tier 3 engine is not available for any off-road equipment larger than 50~~100~~ hp, that equipment shall be equipped with a Tier 2 engine, or an engine that is equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides (NOx) and diesel particulate matter (DPM) to no more than Tier 2 levels unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices is "not practical" for the following, as well as other, reasons. 1. There is no available retrofit control device that has been verified by either the California Air Resources Board or U.S. Environmental Protection Agency to control the engine in question to Tier 2 equivalent emission levels and the highest level of available control using retrofit or Tier 1 engines is being used for the engine in question; or	The AQCMM shall include in the Monthly Compliance Report the following to demonstrate control of diesel construction-related emissions: A. A summary of all actions taken to control diesel construction related emissions; B. A list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained; and C. Any other documentation deemed necessary by the CPM or AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
2. The construction equipment is intended to be on site for 10 days or less. 3. The CPM may grant relief from this requirement if the AQCMM can demonstrate a good faith effort to comply with this requirement and that compliance is not practical. c. The use of a retrofit control device may be terminated immediately, provided that the CPM is informed within 10 working days of the termination and that a replacement for the equipment item in question meeting the controls required in item "b" occurs within 10 days of termination of the use, if the equipment would be needed to continue working at this site for more than 15 days after the use of the retrofit control device is terminated, if one of the following conditions exists : 1. The use of the retrofit control device is excessively reducing the normal availability of the construction equipment due to increased down time for maintenance, and/or reduced power output due to an excessive increase in back pressure. 2. The retrofit control device is causing or is reasonably expected to cause engine damage. 3. The retrofit control device is causing or is reasonably expected to cause a substantial risk to workers or the public. 4. Any other seriously detrimental cause which has the approval of the CPM prior to implementation of the termination. d. All heavy earth-moving equipment and heavy duty construction-related trucks with engines meeting the requirements of (b) above shall be properly maintained and the engines tuned to the engine manufacturer's specifications. e. All diesel heavy construction equipment shall not idle for more than ten minutes. Vehicles that need to idle as part of their normal operation (such as concrete trucks) are exempted from this requirement. f. Construction equipment will employ electric motors when feasible.		CEC/BLM
AQ-SC6 The project owner, when obtaining dedicated on-road or off-road vehicles for mirror washing activities and other facility maintenance activities, shall only obtain vehicles that meet California on-road vehicle emission standards or appropriate U.S.EPA/California off-road engine emission standards for the latest model year available when obtained.	At least 30 days prior to the start commercial operation, the project owner shall submit to the CPM a copy of the plan that identifies the size and type of the on-site vehicle and equipment fleet and the vehicle and equipment purchase orders and contracts and/or purchase schedule. The plan shall be updated every other year and submitted in the Annual Compliance Report.	CEC/BLM
AQ-SC7 The project owner shall provide a site Operations Dust Control Plan, including all applicable fugitive dust control measures identified in the verification of **AQ-SC3** that would be applicable to minimizing fugitive dust emission creation from operation and maintenance activities and preventing all fugitive dust plumes that would not comply with the performance standards identified in **AQ-SC4** from leaving the project site; that: A. describes the active operations and wind erosion control techniques such as windbreaks and chemical dust suppressants, including their ongoing maintenance procedures, that shall be used on areas that could be disturbed by vehicles or wind anywhere within the project boundaries; and	At least 30 days prior to start of commercial operation, the project owner shall submit to the CPM for review and approval a copy of the site Operations Dust Control Plan that identifies the dust and erosion control procedures, including effectiveness and environmental data for the proposed soil stabilizer, that will be used during operation of the project and that identifies all locations of the speed limit signs. Within 60 days after	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
B. identifies the location of signs throughout the facility that will limit traveling on unpaved portion of roadways to solar equipment maintenance vehicles only. In addition, vehicle speed shall be limited to no more than 10 miles per hour on these unpaved roadways, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions. The site operations fugitive dust control plan shall include the use of durable non-toxic soil stabilizers on all regularly used unpaved roads and disturbed off-road areas, or alternative methods for stabilizing disturbed off-road areas, within the project boundaries, and shall include the inspection and maintenance procedures that will be undertaken to ensure that the unpaved roads remain stabilized. The soil stabilizer used shall be a non-toxic soil stabilizer or soil weighting agent that can be determined to be as efficient as or more efficient for fugitive dust control than ARB approved soil stabilizers, and that shall not increase any other environmental impacts including loss of vegetation to areas beyond where the soil stabilizers are being applied for dust control. The performance and application of the fugitive dust controls shall also be measured against and meet the performance requirements of condition **AQ-SC4**. The measures and performance requirements of **AQ-SC4** shall also be included in the operations dust control plan.	commercial operation, the project owner shall provide to the CPM a report identifying the locations of all speed limit signs, and a copy of the project employee and contractor training manual that clearly identifies that project employees and contractors are required to comply with the dust and erosion control procedures and on-site speed limits.	
AQ-SC8 The project owner shall provide the CPM copies of all District issued Authority-to-Construct (ATC) and Permit-to-Operate (PTO) documents for the facility. The project owner shall submit to the CPM for review and approval any modification proposed by the project owner to any project federal air permit. The project owner shall submit to the CPM any modification to any federal air permit proposed by the District or U.S. Environmental Protection Agency (U.S. EPA), and any revised federal air permit issued by the District or U.S. EPA, for the project.	The project owner shall submit any ATC, PTO, and proposed federal air permit modifications to the CPM within 5 working days of its submittal either by 1) the project owner to an agency, or 2) receipt of proposed modifications from an agency. The project owner shall submit all modified ATC/PTO documents and all federal air permits to the CPM within 15 days of receipt.	CEC/BLM
AQ-1 Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-2 This equipment shall be exclusively fueled with natural gas and shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-3 This equipment is subject to the federal NSPS codified at 40 CFR Part 60, Subparts A (General Provisions) and Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units).	The project owner shall complete and submit to the CPM a compliance plan that provides a list of the 40 CFR 60 Subpart A and Dc plans, tests, and recordkeeping requirements and their compliance schedule dates as applicable for the boilers at least 30 days prior to first fire of the boiler or earlier as necessary for compliance with Subpart A and Dc.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
AQ-4 Emissions from this equipment shall not exceed the following hourly emission limits at any firing rate, verified by fuel use and compliance tests: a. NOx as NO_2: 1. 0.389 lb/hr operating at 100% load (based on 9.0 ppmvd corrected to 3% O_2 and averaged over one hour) 2. 0.097 lb/hr operating at 25% load (based on 9.0 ppmvd corrected to 3% O_2 and averaged over one hour) b. CO: 1. 1.322 lb/hr operating at 100% load (based on 50 ppmvd corrected to 3% O_2 and averaged over one hour) 2. 0.331 operating at 25% load (based on 50 ppmvd corrected to 3% O_2 and averaged over one hour) c. VOC as CH_4: 1. 0.175 lb/hr operating at 100% load 2. 0.044 lb/hr operating at 25% load d. SOx as SO_2: 1. 0.019~~0~~ lb/hr operating at 100% load 2. 0.005~~2~~ lb/hr operating at 25% load e. PM10: 1. 0.035 lb/hr operating at 100% load 2. 0.088 lb/hr operating at 25% load	As part of the Annual Compliance Report, the project owner shall include information demonstrating compliance with boiler operating emission rates.	CEC/BLM
AQ-5 This equipment shall be operated only on PUC pipeline quality natural gas and shall be equipped with a non-resettable fuel meter. Fuel used shall not exceed: a. 57,499,425 cubic feet of natural gas per rolling twelve months; and b. 441,662 ~~524,995~~ cubic feet of natural gas per calendar day.	The project owner shall submit to the CPM the boiler fuel use data demonstrating compliance with this condition as part of the Annual Operation Report.	CEC/BLM
AQ-6 Operation of this equipment shall not exceed 17 total hours per day with no more than: a. 15 hours per calendar day and 4500 hours per rolling twelve months at 25% load; and b. 12 hours per calendar day and 600 hours per rolling twelve months at 100% load.	The project owner shall submit to the CPM the boiler fuel use data demonstrating compliance with this condition as part of the Annual Operation Report.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
AQ-7 The project owner shall maintain an operations log for this equipment on-site and current for a minimum of five (5) years, and said log shall be provided to District personnel on request. The operations log shall include the following information at a minimum: a. Total operation time (hours/day, hours/month and cumulative hours/rolling twelve months); b. Fuel use (daily, monthly and cumulative hours/rolling twelve months); c. Maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NOx, CO, PM10, VOC and SOx (including calculation protocol); and, d. Any permanent changes made to the equipment that would affect air pollutant emissions, and indicate when changes were made.	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-9 The project owner shall continuously monitor fuel flow rate and flue gas oxygen level.	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-10 The project owner shall perform an initial compliance test on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual within 180 days of initial start up. The test report shall be submitted to the District within 6 weeks of performance of the test. The initial compliance test shall be for all items listed in condition **AQ-4** above, in addition to: a. NO$_x$ as NO$_2$ in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 19 and 20). b. CO in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Method 10). c. PM$_{10}$ in mg/m^3 at 3% oxygen and lb/hr (measured per USEPA Reference Methods 5 and 202 or CARB Method 5). d. Opacity (measured per USEPA reference Method 9). e. Flue gas flow rate in dscf per minute. f. VOC as CH$_4$ in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 25A and 18). g. SOx as SO$_2$ in ppmvd at 3% oxygen calculated based on fuel supplier provided information.	The project owner shall notify the District and the CPM within 15 working days before the execution of the compliance test required in this condition. The test results shall be submitted to the District and to the CPM within the timeframe required by this condition.	CEC/BLM
AQ-11 The project owner shall perform annual compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District no later than six weeks prior to the expiration date of this permit. The following compliance tests are required: a. NO$_x$ as NO$_2$ in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 19 and 20). b. CO in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Method 10).	The project owner shall notify the District and the CPM within 15 working days before the execution of the initial compliance test required in this condition. The test results shall be submitted to the District and to the CPM within 6 weeks of the date of the tests.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
c. Flue gas flow rate in dscf per minute. d. Opacity (measured per USEPA reference Method 9).		
AQ-12 This unit shall be tuned annually in accordance with the tuning procedure referenced in District Rule 1157 Section (I) or a modification of the tuning procedure described in Section (I) as approved by the District, or the permit unit manufacturer's specified tune-up procedure, by a technician that is qualified, to the satisfaction of the District, to perform a tune-up;	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-13 Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-14 This system shall store only HTF, specifically the condensable fraction of the vapors vented from the ullage system.	The project owner shall make the site available for inspection of HTF piping Inspection and Maintenance Program records (**AQ-17**) and HTF system equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-15 This system shall be operated at all times with the carbon adsorption system under District permit [C010918, C010919, C010920, C0109	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-16 Vent release shall be monitored in accordance with a District approved Inspection, Monitoring and Maintenance plan.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-17 The project owner shall establish an inspection and maintenance program to determine, repair, and log leaks in HTF piping network and expansion tanks. Inspection and maintenance program and documentation shall be available to District staff upon request. a. All pumps, compressors and pressure relief devices (pressure relief valves or rupture disks) shall be electronically, audio, or visually inspected once every operating day. b. All accessible valves, fittings, pressure relief devices (PRDs), hatches, pumps, compressors, etc. shall be inspected quarterly using a leak detection device such as a Foxboro OVA 108 calibrated for methane. c. Inspection frequency for accessible components, except pumps, compressors and pressure relief valves, may be changed from quarterly to annual when two percent or less of the components within a component type are found to leak during an inspection for five consecutive quarters.	The inspection and maintenance plan shall be submitted to the CPM for review and approval at least 30 days before taking delivery of the HTF. As part of the Annual Compliance Report, the project owner shall provide the quantity of used HTF fluid removed from the system and the amount of new HTF fluid added to the system each year. The project owner shall make the site available for inspection of HTF piping Inspection and Maintenance Program records and HTF system equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
d. Inspection frequency for accessible components, except pumps, compressors and pressure relief valves, shall be increased to quarterly when more than two percent of the components within a component type are found to leak during any inspection or report. e. If any evidence of a potential leak is found the indication of the potential leak shall be eliminated within 7 calendar days of detection. f. VOC leaks greater than 10,000-ppmv shall be repaired within 24-hours of detection. g. After a repair, the component shall be re-inspected for leaks as soon as practicable, but no later than 30 days after the date on which the component is repaired and placed in service. h. The project owner shall maintain a log of all VOC leaks exceeding 10,000-ppmv, including location, component type, date of leak detection, emission level (ppmv), method of leak detection, date of repair, date and emission level of reinspection after leak is repaired. i. The project owner shall maintain records of the total number of components inspected, and the total number and percentage of leaking components found, by component types made. j. The project owner shall maintain record of the amount of HTF replaced on a monthly basis for a period of 5 years.		
AQ-18 The project owner shall submit to the District a compliance test protocol within sixty (60) days of start-up and shall conduct all required compliance/certification tests in accordance with a District-approved test plan. Thirty (30) days prior to the compliance/certification tests the project owner shall provide a written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District within forty-five (45) days after testing.	The project owner shall provide a compliance test protocol to the District for approval and CPM for review at least no later than sixty (60) days after start-up and submit a test plan to the District for approval and CPM for review at least thirty (30) days prior to the compliance tests. The project owner shall notify the District and the CPM within ten (10) working days before the execution of the compliance tests required in **AQ-19** and **AQ-20**, and the test results shall be submitted to the District and to the CPM within forty-five (45) days after the tests are conducted.	CEC/BLM
AQ-19 The project owner shall perform the following initial compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District within 180 days of initial start up. The following compliance tests are required: a. VOC as CH_4 in ppmvd and lb/hr (measured per USEPA Reference Methods 25A and 18 or equivalent). b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).	The project owner shall submit the test results to the District and to the CPM within 180 days after initial start up.	CEC/BLM
AQ-20 The project owner shall perform the following annual compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District no later than six weeks prior to the expiration date of this permit. The following compliance tests are required:	As part of the Annual Compliance Report, the project owner shall include the test results demonstrating compliance with this condition and the project owner	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
a. VOC as CH_4 in ppmvd and lb/hr (measured per USEPA Reference Methods 25A and 18 or equivalent). b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent). Additionally, records of all compliance tests shall be maintained on site for a period of five (5) years and presented to District personnel upon request.	shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	
AQ-21 Emissions from this equipment may not exceed the following emission limits, based on a calendar day summary: a. VOC as CH_4 – 1.5 lb/day, verified by compliance test. b. Benzene – 0.75 lb/day, verified by compliance test.	As part of the Annual Compliance Report, the project owner shall include the test results demonstrating compliance with this condition and the project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-22 If current non-criteria substances become regulated as toxic or hazardous substances and are used in this equipment, the project owner shall submit to the District a plan demonstrating how compliance will be achieved and maintained with such regulations.	The project owner shall a copy of the plan prepared to comply with this condition, if and when necessary, to the CPM for review within 30 days of submittal to the District.	CEC/BLM
AQ-23 Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-24 This carbon adsorption system shall provide 98% control efficiency of VOC emissions vented from the HTF ullage system under District Permit [T010934, T010935, T010936, T010937	The project owner shall provide the District and CPM carbon adsorption manufacturer guarantee data showing compliance with this condition at least 30 days prior to the installation of the carbon adsorption systems.	CEC/BLM
AQ-25 The project owner shall prepare and submit a monitoring and change-out plan for the carbon adsorptions system which ensures that the system is operating at optimal control efficiency at all times for District approval prior to start up.	The project owner shall submit a monitoring and change-out plan for the carbon adsorptions system for District approval and CPM review prior to facility start-up.	CEC/BLM
AQ-26 This equipment shall be properly maintained and kept in good operating condition at all times.	The project owner shall submit maintenance reports for carbon adsorption system to the CPM as part of Annual Compliance Report.	CEC/BLM
AQ-27 This equipment must be in use and operating properly at all times the HTF ullage system is venting.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
AQ-28 Total emissions of VOC to the atmosphere shall not exceed 1.5 lbs/day and 300 lbs/year calculated based on the most recent monitoring results.	As part of the Annual Compliance Report the project owner shall include information on operating emission rates to demonstrate compliance with this condition.	CEC/BLM
AQ-29 During operation, the project owner shall monitor VOC measured at outlet from the carbon beds. Sampling is to be performed on a weekly basis. Samples shall be analyzed pursuant to USEPA Test Method 25 – Gaseous Non-methane Organic Emissions. Initial test shall be submitted to the District within 180 days after startup.	The project owner shall provide a summary of the carbon bed monitoring data as part of the Annual Compliance Report and shall submit tests to the District as required in this condition.	CEC/BLM
AQ-30 FID shall be considered invalid if not calibrated on the day of required use.	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-31 The project owner shall maintain current and on-site for the duration of the project a log of the weekly test results, which shall be provided to District personnel upon request, with date and time the monitoring was conducted.	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-32 Prior to January 31 of each new year, the project owner of this unit shall submit to the District a summary report of all VOC emissions (as hexane).	G.1.1 **The project owner shall provide a summary of the HTF vent system benzene and VOC emissions to the CPM as part of the Annual Compliance Report and to the District by January 31 each year.Cooling Tower Conditions.**	CEC/BLM
AQ-33 Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-34 This equipment shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
AQ-35 The drift rate shall not exceed 0.0005 percent with a maximum circulation rate of 6,034 gallons per minute. The maximum hourly PM10 emission rate shall not exceed 0.061 pounds per hour, as calculated per the written District-approved protocol.	The manufacturer guarantee data for the drift eliminator, showing compliance with this condition, shall be provided to the CPM and the District 30 days prior to cooling tower operation. As part of the Annual Compliance Report the project owner shall include information on operating emission rates to demonstrate compliance with this condition.	CEC/BLM
AQ-36 The project owner shall perform weekly tests of the blow-down water total dissolved solids (TDS). The TDS shall not exceed 2,000 ppmv based on an arithmetic average of all TDS measurements conducted each month. The operator shall maintain a log which contains the date and result of each blow-down water test in TDS ppm, and the resulting mass emission rate. This log shall be maintained on site for a minimum of five (5) years and shall be provided to District personnel on request.	The cooling tower recirculation water TDS content test results shall be provided to representatives of the District, ARB, and the Energy Commission upon request.	CEC/BLM
AQ-37 The project owner shall conduct all required cooling tower water tests in accordance with a District-approved test and emissions calculation protocol. Thirty (30) days prior to the first such test the project owner shall provide a written test and emissions calculation protocol for District review and approval.	The project owner shall provide an emissions calculation and water sample testing protocol to the District for approval and CPM for review at least 30 days prior to the first cooling tower water test.	CEC/BLM
AQ-38 A maintenance procedure shall be established that states how often and what procedures will be used to ensure the integrity of the drift eliminators. This procedure is to be kept onsite and available to District personnel on request.	The project owner shall make available at request the written drift eliminator maintenance procedures for inspection by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-39 This equipment shall be installed, operated and maintained in strict accord with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants. Unless otherwise noted, this equipment shall also be operated in accordance with all data and specifications submitted with the application for this permit.	The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission	CEC/BLM
AQ-40 This unit shall only be fired on ultra-low sulfur diesel fuel, whose sulfur concentration is less than or equal to 0.0015% (15 ppm) on a weight per weight basis per CARB Diesel or equivalent requirements.	The project owner shall make the site available for inspection of equipment and fuel purchase records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-41 A non-resettable hour meter with a minimum display capability of 9,999 hours shall be installed and maintained on this unit to indicate elapsed engine operating time. (Title 17 CCR §93115.10(e)(1)).	At least 30 days prior to the installation of the engine, the project owner shall provide the District and the CPM the specification of the hour timer.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
AQ-42 This unit shall be limited to use for emergency power, defined as in response to a fire or when commercially available power has been interrupted. In addition, this unit shall be operated no more than one hour in any twenty four hour period and 20 hours per year for testing and maintenance, excluding compliance source testing. Time required for source testing will not be counted toward the one hour daily or 20 hour per year limit.	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-43 This facility shall not perform testing of more than one internal combustion engine at any one time and no more than two internal combustion engines in any twenty-four hour period.	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-44 The project owner shall maintain a operations log for this unit current and on-site, either at the engine location or at a on-site location, for a minimum of five (5) years, and for another year where it can be made available to the District staff within 5 working days from the District's request, and this log shall be provided to District, State and Federal personnel upon request. The log shall include, at a minimum, the information specified below: a. Date of each use and duration of each use (in hours); b. Reason for use (testing & maintenance, emergency, required emission testing); c. Calendar year operation in terms of fuel consumption (in gallons) and total hours; and, d. Fuel sulfur concentration (the project owner may use the supplier's certification of sulfur content if it is maintained as part of this log).	The project owner shall submit records required by this condition that demonstrating compliance with the sulfur content and engine use limitations of conditions **AQ-40, AQ-42,** and **AQ-43** in the Annual Compliance Report, including a photograph showing the annual reading of engine hours. The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-45 This unit is subject to the requirements of the Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines (Title 17 CCR 93115). In the event of conflict between these conditions and the ATCM, the more stringent shall govern.	Not necessary.	CEC/BLM
AQ-46 This unit is subject to the requirements of the Federal National Source Performance Standards (NSPS) for Stationary Compression Ignition Internal Combustion Engines (40 CFR Part 60 Subpart IIII).	The project owner shall submit the engine specifications at least 30 days prior to purchasing the engines for review and approval demonstrating that the engines meet NSPS and ARB ATCM emission limit requirements at the time of engine purchase.	CEC/BLM
AQ-47 This equipment shall be installed, operated and maintained in strict accord with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants. Unless otherwise noted, this equipment shall also be operated in accordance with all data and specifications submitted with the application for this permit.	The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
AQ-48 This unit shall only be fired on ultra-low sulfur diesel fuel, whose sulfur concentration is less than or equal to 0.0015% (15 ppm) on a weight per weight basis per CARB Diesel or equivalent requirements.	The project owner shall make the site available for inspection of equipment and fuel purchase records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-49 A non-resettable hour meter with a minimum display capability of 9,999 hours shall be installed and maintained on this unit to indicate elapsed engine operating time. (Title 17 CCR §93115.10(e)(1)).	At least 30 days prior to the installation of the engine, the project owner shall provide the District and the CPM the specification of the hour timer.	CEC/BLM
AQ-50 This unit shall be limited to use for emergency power, defined as in response to a fire or due to low fire water pressure. In addition, this unit shall be operated no more than one hour in any twenty four hour period and 50 hours per year for testing and maintenance, excluding compliance source testing. Time required for source testing will not be counted toward the one hour daily limit or 50 ~~20~~ hour per year limit. The one hour daily and ~~or~~ 50 hour limit can be exceeded when the emergency fire pump assembly is driven directly by a stationary diesel fueled CI ~~IC~~ engine operated per and in accord with the National Fire Protection Association (NFPA) 25 - "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems," 1998 edition. This requirement includes usage during emergencies. {Title 17 CCR 93115.3(n)}	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-51 This facility shall not perform testing of more than one internal combustion engine at any one time and no more than two internal combustion engines in any twenty four hour period.	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-52 The project owner shall maintain an operations log for this unit current and on-site, either at the engine location or at a on-site location, for a minimum of five (5) years, and for another year where it can be made available to the District staff within 5 working days from the District's request, and this log shall be provided to District, State and Federal personnel upon request. The log shall include, at a minimum, the information specified below: a. Date of each use and duration of each use (in hours); b. Reason for use (testing & maintenance, emergency, required emission testing); c. Calendar year operation in terms of fuel consumption (in gallons) and total hours; and, d. Fuel sulfur concentration (the project owner may use the supplier's certification of sulfur content if it is maintained as part of this log).	The project owner shall submit records required by this condition that demonstrating compliance with the sulfur content and engine use limitations of conditions **AQ-48, AQ-50,** and **AQ-51** in the Annual Compliance Report, including a photograph showing the annual reading of engine hours. The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-53 This unit is subject to the requirements of the Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines (Title 17 CCR 93115). In the event of conflict between these conditions and the ATCM, the more stringent shall govern.	Not necessary.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
AQ-54 This unit is subject to the requirements of the Federal National Source Performance Standards (NSPS) for Stationary Compression Ignition Internal Combustion Engines (40 CFR Part 60 Subpart IIII).	The project owner shall submit the engine specifications at least 30 days prior to purchasing the engines for review and approval demonstrating that the engines meet NSPS and ARB ATCM emission limit requirements at the time of engine purchase.	CEC/BLM
AQ-55 The toll-free telephone number that must be posted is 1-800-635-4617.	The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission	CEC/BLM
AQ-56 The project owner shall maintain a log of all inspections, repairs, and maintenance on equipment subject to Rule 461. Such logs or records shall be maintained at the facility for at least two (2) years and available to the District upon request. Records of Maintenance, Tests, Inspections, and Test Failures shall be maintained and available to District personnel upon request; record form shall be similar to the Maintenance Record form indicated in EO VR-401-A, Figure 2N.	The project owner shall make the site available for inspection of equipment and fuel purchase records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-57 Any modifications or changes to the piping or control fitting of the vapor recovery system require prior approval from the District.	The project owner shall make the site available for inspection of maintenance records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-58 Pursuant to EO VR-401-A, vapor vent pipes are to be equipped with Husky 5885 pressure relief valves or as otherwise allowed by EO.	The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission	CEC/BLM
AQ-59 The project owner shall perform the following tests within 60 days of construction completion and annually thereafter in accord with the following test procedures: a. Determination of Static Pressure Performance of Vapor Recovery Systems at Gasoline Dispensing Facilities with Aboveground Storage Tanks shall be conducted per EO VR-401-A Exhibit 4, and b. Phase I Adapters, Emergency Vents, Spill Container Drain Valve, Dedicated gauging port with drop tube and tank components, all connections, and fittings shall NOT have any detectable leaks; test methods shall be per EO VR-401-A Table 2-1, and c. Liquid Removal Test (if applicable) per TP-201.6, and The District shall be notified a minimum of 10 days prior to performing the required tests with the final results submitted to the District within 30 days of completion of the tests. The District shall receive passing test reports no later than six (6) weeks prior to the expiration date of this permit.	The project owner shall make the site available for inspection of equipment and the results for the tests required by this condition by representatives of the District, ARB, and the Energy Commission.	CEC/BLM

TABLE G-1 (Continued) CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
AQ-60 Pursuant to California Health and Safety Code sections 39600, 39601 and 41954, this aboveground tank shall be installed and maintained in accordance with Executive Order (EO) VR-401-A for EVR Phase I, and Standing Loss requirements. http://www.arb.ca.gov/vapor/eos/eo-vr401/eo-vr401a/eo-401a.pdf Additionally, Phase II Vapor Recovery System shall be installed and maintained per G-70-116-F with the exception that hanging hardware shall be EVR Balance Phase II type hanging hardware (VST or other CARB Approved EVR Phase II Hardware).	The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-61 Pursuant to EO VR-401-A; Maintenance and repair of system components, including removal and installation of such components in the course of any required tests, shall be performed by OPW Certified Technicians.	The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-62 Pursuant to EO VR-401-A, Maintenance Intervals for OPW; Tank Gauge Components; Dust Caps Emergency Vents; Phase I Product and Vapor Adapters, and Spill Container Drain Valve, shall be conducted by an OPW trained technician annually.	The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-63 The annual throughput of gasoline shall not exceed 600,000 gallons per year. Throughput Records shall be kept on site and available to District personnel upon request. Before this annual throughput can be increased the facility may be required to submit to the District a site specific Health Risk Assessment in accord with a District approved plan. In addition public notice and/or comment period may be required.	The project owner shall provide gasoline throughput records to demonstrate compliance with this condition in the Annual Compliance Report.	CEC/BLM
AQ-64 The project owner shall; install, maintain, and operate EVR Phase I in compliance with CARB Executive Order VR-401-A, and Phase II vapor recovery in accordance with G-70-116-F. In the event of conflict between these permit conditions and/or the referenced EO's the more stringent requirements shall govern.	The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
CULTURAL RESOURCES		
CUL-1 PREHISTORIC TRAILS NETWORK CULTURAL LANDSCAPE (PTNCL) DOCUMENTATION AND POSSIBLE NRHP NOMINATION: The project owner shall contribute to a special fund set up by the Energy Commission and/or BLM to finance the completion of the PTNCL Documentation and Possible NRHP Nomination program presented in the Blythe Solar Power Plant (BSPP) Revised Staff Assessment RSA). The amount of the contribution shall be $35 per acre that the project encloses or otherwise disturbs. Any additional contingency contribution is not to exceed an amount totaling 20% of the original contribution. The contribution to the special fund may be made in installments at the approval of the CPM, with the first installment to constitute 1/3 of the total original contribution amount.	No later than 10 days after receiving notice of the successful transfer of funds for any installment to the Energy Commission's and/or BLM's special PTNCL fund, the project owner shall submit a copy of the notice to the Energy Commission's Compliance Project Manager (CPM).	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
If a project is not certified, or if a project owner does not build the project, or, if for some other reason deemed acceptable by the CPM, a project owner does not participate in funding the PTNCL documentation and possible NRHP nomination program, the other project owner(s) may consult with the CPM to adjust the scale of the PTNCL documentation and possible NRHP nomination program research activities to match available funding. A project owner that funds the PTNCL documentation and possible NRHP nomination program, then withdraws, will be able to reclaim their monetary contribution, to be refunded on a prorated basis.		CEC/BLM
CUL-2 DESERT TRAINING CENTER CALIFORNIA-ARIZONA MANEUVER AREA CULTURAL LANDSCAPE (DTCCL) DOCUMENTATION AND POSSIBLE NRHP NOMINATION: The project owner shall contribute to a special fund set up by the Energy Commission and/or BLM to finance the completion of the Documentation and Possible NRHP Nomination program presented in the BSPP RSA. The amount of the contribution shall be $25 per acre that the project encloses or otherwise disturbs. Any additional contingency contribution is not to exceed an amount totaling 20% of the original contribution. The contribution to the special fund may be made in installments at the approval of the CPM, with the first installment to constitute 1/3 of the total original contribution amount. If a project is not certified, or if a project owner does not build the project, or, if for some other reason deemed acceptable by the CPM, a project owner does not participate in funding the DTCCL documentation and possible NRHP nomination program, the other project owner(s) may consult with the CPM to adjust the scale of the DTCCL documentation and possible NRHP nomination program research activities to match available funding. A project owner that funds the DTCCL documentation and possible NRHP nomination program, then withdraws, will be able to reclaim their monetary contribution, to be refunded on a prorated basis.	No later than 10 days after receiving notice of the successful transfer of funds for any installment to the Energy Commission's and/or BLM's special DTCCL fund, the project owner shall submit a copy of the notice to the CPM.	CEC/BLM
CUL-3 CULTURAL RESOURCES PERSONNEL: Prior to the start of ground disturbance (includes "preconstruction site mobilization", "ground disturbance," and "construction grading, boring, and trenching," as defined in the General Conditions for this project), the project owner shall obtain the services of a Cultural Resources Specialist (CRS), one or more alternate CRSs, if alternates are needed, and the two technical specialists identified below in this condition. The CRS shall manage all cultural resources mitigation, monitoring, curation, and reporting activities in accordance with the Conditions of Certification (Conditions). The CRS shall have a primarily administrative and coordinative role for the BSPP. The project owner shall ensure that the CRS implements the cultural resources conditions, providing for data recovery from known historical resources, and shall ensure that the CRS makes recommendations regarding the eligibility for listing in the California Register of Historical Resources (CRHR) of any cultural resources that are newly discovered or that may be impacted in an unanticipated manner. The CRS may obtain the services of field crew members and cultural resources monitors (CRMs), if needed, to assist in mitigation, monitoring, and curation activities. No ground disturbance shall occur prior to CPM approval of the CRS and alternates, unless such activities are specifically approved by the CPM. Approval of a CRS may be denied or revoked for reasons including but not limited to noncompliance on this or other Energy Commission projects. CULTURAL RESOURCES SPECIALIST: The resumes for the CRS and alternate(s) shall include information demonstrating to the satisfaction of the CPM that their training and backgrounds conform to the U.S. Secretary of Interior's Professional	1. Preferably at least 120 days, but in any event no less than75 days prior to the start of ground disturbance, the project owner shall submit the resumes for the CRS, the alternate CRS(s) if desired, the PPA, and the PHA to the CPM for review and approval. 2. At least 65 days prior to the start of data recovery on known archaeological sites, the project owner shall confirm in writing to the CPM that the approved CRS, the PPA, and the PHA will be available for on-site work and are prepared to implement the cultural resources Conditions CUL-6 through CUL-11. 3. At least 10 days prior to a termination or release of the CRS, or within 10 days after the resignation of a CRS, the project owner shall submit the resume of	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
Qualifications Standards, as published in Title 36, Code of Federal Regulations, part 61. In addition, the CRS shall have the following qualifications: 1. A background in anthropology and prehistoric archaeology; 2. At least 10 years of archaeological resource mitigation and field experience, with at least 3 of those years in California; and 3. At least 3 years of experience in a decision-making capacity on cultural resources projects, with at least 1 of those years in California, and the appropriate training and experience to knowledgably make recommendations regarding the significance of cultural resources. REQUIRED CULTURAL RESOURCES TECHNICAL SPECIALISTS: The project owner shall ensure that the CRS obtains the services of a qualified prehistoric archaeologist to conduct the research specified in **CUL-6** and **CUL-7**. The Project Prehistoric Archaeologist's (PPA) training and background must meet the U.S. Secretary of the Interior's Professional Qualifications Standards for prehistoric archaeology, as published in Title 36, Code of Federal Regulations, part 61, and the resume of the PPA must demonstrate familiarity with similar artifacts and environmental modifications (deliberate and incidental) to those associated with the prehistoric and protohistoric use of the Palo Verde Mesa. The PPA must meet OSHA standards as a "Competent Person" in trench safety. The project owner shall ensure that the CRS obtains the services of a qualified historical archaeologist to conduct the research specified in CUL-8 through CUL-11. The Project Historical Archaeologist's (PHA) training and background must meet the U.S. Secretary of Interior's Professional Qualifications Standards for historical archaeology, as published in Title 36, Code of Federal Regulations, part 61. The resumes of the CRS, alternate CRS, the PPA, and the PHA shall include the names and telephone numbers of contacts familiar with the work of these persons on projects referenced in the resumes and demonstrate to the satisfaction of the CPM that these persons have the appropriate training and experience to undertake the required research. The project owner may name and hire the CRS, alternate CRS, the PPA, and the PHA prior to certification. OPTIONAL SPECIALIST BACKHOE OPERATOR: The project owner shall ensure that the CRS obtains the services of a specialist backhoe operator to conduct the activities specified in CUL-6, if needed. This backhoe operator shall have a resume that demonstrates previous experience using a backhoe in coordination with an archaeologist. In addition the operator shall use a machine with a "stripping bucket" that is sensitive enough to remove even and consistent layers of sediment 5 centimeters thick. FIELD CREW MEMBERS AND CULTURAL RESOURCES MONITORS: CRMs and field crew members shall have the following qualifications: 1. A B.S. or B.A. degree in anthropology, archaeology, historical archaeology, or a related field, and one year experience monitoring in California; or 2. An A.S. or A.A. degree in anthropology, archaeology, historical archaeology, or a related field, and four years experience monitoring in California; or 3. Enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historical archaeology, or a related field, and two years of monitoring experience in California.	the proposed new CRS to the CPM for review and approval. At the same time, the project owner shall also provide to the proposed new CRS the AFC and all cultural resources documents, field notes, photographs, and other cultural resources materials generated by the project. If no alternate CRS is available to assume the duties of the CRS, a monitor may serve in place of a CRS so that ground disturbance may continue up to a maximum of 3 days without a CRS. If cultural resources are discovered then ground disturbance will remain halted until there is a CRS or alternate CRS to make a recommendation regarding significance. 4. At least 20 days prior to data recovery on known archaeological sites, the CRS shall provide a letter naming anticipated field crew members for the project and attesting that the identified field crew members meet the minimum qualifications for cultural resources data recovery required by this Condition. 5. At least 20 days prior to ground disturbance, the CRS shall provide a letter naming anticipated CRMs for the project and attesting that the identified CRMs meet the minimum qualifications for cultural resources monitoring required by this Condition. 6. At least 5 days prior to additional CRMs beginning on-site duties during the project, the CRS shall provide letters to the CPM identifying the new CRMs and attesting to their qualifications.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
CUL-4 PROJECT DOCUMENTS FOR CULTURAL RESOURCES PERSONNEL: Prior to the start of ground disturbance, the project owner shall provide the, the CRS, the PPA, and the PHA with copies of the AFC, data responses, confidential cultural resources documents, the Revised Staff Assessment (RSA), and the RSA Supplement/Errata, if any, for the project. The project owner shall also provide the CRS, the PPA, the PHA, and the CPM with maps and drawings showing the footprints of the power plant, all linear facility routes, all access roads, and all laydown areas. Maps shall include the appropriate USGS quadrangles and maps at an appropriate scale (e.g., 1:2400 or 1" = 200') for plotting cultural features or materials. If the CRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the CRS and CPM. Staff shall review map submittals and, in consultation with the CRS, approve those that are appropriate for use in cultural resources planning activities. No ground disturbance shall occur prior to CPM approval of maps and drawings, unless such activities are specifically approved by the CPM. Release of cultural resources information will be pending BLM approval. If construction of the project would proceed in phases, maps and drawings not previously provided shall be provided to the CRS, the PPA, the PHA, and the CPM prior to the start of each phase. Written notice identifying the proposed schedule of each project phase shall be provided to the CRS and CPM. Weekly, until ground disturbance is completed, the project construction manager shall provide to the CRS and CPM a schedule of project activities for the following week, including the identification of area(s) where ground disturbance will occur during that week. The project owner shall notify the CRS and the CPM of any changes to the scheduling of the construction phases.	1. Preferably at least 115 days, but in any event no less than 60 days prior to the start of ground disturbance, the project owner shall provide the AFC, data responses, confidential cultural resources documents, the Revised Staff Assessment (RSA), and RSA Supplement/Errata to the CRS, if needed, and to the PPA, and the PHA. The project owner shall also provide the subject maps and drawings to the CRS, PPA, PHA, and CPM. Staff, in consultation with the CRS, PPA, and PHA, will review and approve maps and drawings suitable for cultural resources monitoring and data recovery activities. 2. At least 15 days prior to the start of ground disturbance, if there are changes to any project-related footprint, the project owner shall provide revised maps and drawings for the changes to the CRS, PPA, PHA, and CPM. 3. At least 15 days prior to the start of each phase of a phased project, the project owner shall submit the appropriate maps and drawings, if not previously provided, to the CRS, PPA, PHA, and CPM. 4. Weekly, during ground disturbance, a current schedule of anticipated project activity shall be provided to the CRS and CPM by letter, e-mail, or fax. 5. Within 5 days of changing the scheduling of phases of a phased project, the project owner shall provide written notice of the changes to the CRS and CPM.	CEC/BLM
CUL-5 CULTURAL RESOURCES MONITORING AND MITIGATION PLAN: Prior to the start of ground disturbance, the project owner shall submit to the CPM for review and approval the Cultural Resources Monitoring and Mitigation Plan (CRMMP), as prepared by or under the direction of the CRS, with the contributions of the PPA, and the PHA. The authors' name(s) shall appear on the title page of the CRMMP. The CRMMP shall specify the impact mitigation protocols for all known cultural resources and identify general and specific measures to minimize potential impacts to all other cultural resources, including those discovered during construction. Implementation of the CRMMP shall be the responsibility of the CRS and the project owner. Copies of the CRMMP shall reside with the CRS, alternate CRS, the PPA, and the PHA, each CRM, and the project owner's on-site construction manager. No ground disturbance shall occur prior to CPM approval of the CRMMP, unless such activities are specifically approved by the CPM. Prior to certification, the project owner may have the CRS, alternate CRS, the	1. Preferably at least 90 days, but in any event no less than 30 days, the project owner shall submit the CRMMP to the CPM for review and approval. 2. At least 20 days prior to the start of ground disturbance, in a letter to the CPM, the project owner shall agree to pay curation fees for any materials generated or collected as a result of the archaeological investigations (survey, testing, data recovery).	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
PPA, and the PHA complete and submit to CEC for review the CRMMP, except for the portions to be contributed by the PTNCL and the DTCCL programs. The CRMMP shall include, but not be limited to, the elements and measures listed below. 1. The following statement shall be included in the Introduction: "Any discussion, summary, or paraphrasing of the Conditions of Certification in this CRMMP is intended as general guidance and as an aid to the user in understanding the Conditions and their implementation. The conditions, as written in the Commission Decision, shall supersede any summarization, description, or interpretation of the conditions in the CRMMP. The Cultural Resources Conditions of Certification from the Commission Decision are contained in Appendix A." 2. The duties of the CRS shall be fully discussed, including coordination duties with respect to the completion of the Prehistoric Trails Network Cultural Landscape (PTNCL) documentation and possible NRHP nomination program and the Desert Training Center California-Arizona Maneuver Area Cultural Landscape (DTCCL) documentation and possible NRHP nomination program, and oversight/management duties with respect to site evaluation, data collection, monitoring, and reporting at both known prehistoric and historic-period archaeological sites and any CRHR-eligible (as determined by the CPM) prehistoric and historic-period archaeological sites discovered during construction. 3. A general research design shall be developed that: a. Charts a timeline of all research activities, including those coordinated under the PTNCL and DTCCL documentation and possible NRHP nomination programs; b. Recapitulates the existing paleoenvironmental, prehistoric, ethnohistoric, ethnographic, and historic contexts developed in the PTNCL and DTCCL historic context and adds to these the additional context of the non-military, historic-period occupation and use of the Palo Verde Mesa, to create a comprehensive historic context for the BSPP vicinity; c. Poses archaeological research questions and testable hypotheses specifically applicable to the archaeological resource types known for the Palo Verde Mesa, based on the research questions developed under the PTNCL and DTCCL research and on the archaeological and historical literature pertinent to the Palo Verde Mesa; and d. Clearly articulates why it is in the public interest to address the research questions that it poses. 4. Protocols, reflecting the guidance provided in CUL-6 through CUL-11 shall be specified for the data recovery from known prehistoric and historic-period archaeological resource types. 5. Artifact collection, retention/disposal, and curation policies shall be discussed, as related to the research questions formulated in the research design. These policies shall apply to cultural resources materials and documentation resulting from evaluation and data recovery at both known prehistoric and historic-period archaeological sites and any CRHR-eligible (as determined by the CPM) prehistoric and historic-period archaeological sites discovered during construction. A prescriptive treatment plan may be included in the CRMMP for limited data types. 6. The implementation sequence and the estimated time frames needed to accomplish all project-related tasks during the ground-disturbance and post-ground–disturbance analysis phases of the project shall be specified. 7. Person(s) expected to perform each of the tasks, their responsibilities, and the reporting relationships between project construction management and the mitigation and monitoring team shall be identified.	3. At least 30 days prior to the initiation of ground disturbance, the project owner shall provide to the CPM a copy of a letter from a curation facility that meets the standards stated in the California State Historical Resources Commission's Guidelines for the Curation of Archaeological Collections, stating the facility's willingness and ability to receive the materials generated by BSPP cultural resources activities and requiring curation. Any agreements concerning curation will be retained and available for audit for the life of the project.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
8. The manner in which Native American observers or monitors will be included, in addition to their roles in the activities required under CUL-1, the procedures to be used to select them, and their roles and responsibilities shall be described. 9. All impact-avoidance measures (such as flagging or fencing) to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during ground disturbance, construction, and/or operation shall be described. Any areas where these measures are to be implemented shall be identified. The description shall address how these measures would be implemented prior to the start of ground disturbance and how long they would be needed to protect the resources from project-related impacts. 10. The commitment to record on Department of Parks and Recreation (DPR) 523 forms, to map, and to photograph all encountered cultural resources over 50 years of age shall be stated. In addition, the commitment to curate all archaeological materials retained as a result of the archaeological investigations (survey, testing, data recovery), in accordance with the California State Historical Resources Commission's Guidelines for the Curation of Archaeological Collections, into a retrievable storage collection in a public repository or museum shall be stated. 11. The commitment of the project owner to pay all curation fees for artifacts recovered and for related documentation produced during cultural resources investigations conducted for the project shall be stated. The project owner shall identify a curation facility that could accept cultural resources materials resulting from BSPP cultural resources investigations. 12. The CRS shall attest to having access to equipment and supplies necessary for site mapping, photography, and recovery of all cultural resource materials (that cannot be treated prescriptively) from known CRHR-eligible archaeological sites and from CRHR-eligible sites that are encountered during ground disturbance . 13. The contents, format, and review and approval process of the final Cultural Resource Report (CRR) shall be described.		
CUL-6 PREHISTORIC QUARRIES ARCHEOLOGICAL DISTRICT (PQAD) DATA RECOVERY AND DISTRICT NOMINATION: Prior to the start of ground disturbance, the project owner shall ensure that the CRMMP includes a PQAD evaluation and data recovery plan, to identify buried additional potential contributors to the district by geophysical or mechanical survey, to investigate and establish the relationships among all potential contributors by formulating research questions answerable with data from the contributors, conduct data recovery from a sample of the contributors, and write a report of investigations and possibly CRHR and NRHP nominations as well. The potential contributors include quarry sites CA-Riv-2846 and CA-Riv-3419 and thermal cobble features SMB-P-434, SMB-P-436, SMB-P-437, SMB-P-438, SMB-P-440, SMB-P-441. This site list may be revised only with the agreement of the CRS and the CPM. The CRMMP shall also include a detailed data recovery plan for three isolated potential thermal cobble features (not included in the PQAD) at multi-component sites SMB-H-164, SMB-M-214, SMB-M-418). The project owner shall ensure that the CRS and the PPA assess the NRHP and CRHR eligibility of the PQAD district. Additionally, if the PQAD is found to be ineligible for both registers, the thermal cobble features' eligibility as a separate archaeological district consisting of a thermal cobble feature cluster must also be considered. The evaluation and data recovery plan shall also specify in detail the location recordation equipment and methods to be used and describe any anticipated post-processing of the data. The project owner shall then ensure that the CRS, the PPA, the specialist backhoe operator, and archaeological team members implement the plan, with the permission of the BLM. The PQAD evaluation and data recovery plan shall provide, at a minimum, the details of each of the numbered elements below.	1. At least 15 days prior to the start of BSPP construction-related ground disturbance in the linear facilities corridor impacting site CA-Riv-3419, the project owner shall notify the CPM that the field recordation of the impacted southwestern portion of the site has ensued. 2. At least 90 days prior to the start of BSPP construction-related ground disturbance in Unit 1 east of Historic Road SMB-H-610, the project owner shall ensure that the PPA completes the geophysical test and that the CRS and PPA consult with the CPM, via telephone, to arrive at an agreement on the reliability of the use of magnetometry to locate buried PQAD thermal cobble features and how to proceed with the subsurface survey. The approved survey shall be conducted. The project owner shall also submit, for the review and approval of the CPM, the precise geographic coordinates of the provisional boundary	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
1. Research Design: Based on the prehistoric and ethnohistoric contexts developed for the PTNCL under the research program funded through CUL-1, Tasks C and D, and the archaeological and ethnohistoric literature pertinent to the Palo Verde Mesa, the research design shall reflect archaeological themes that relate to the identity and the lifeways of Native American groups on the Palo Verde Mesa in the prehistoric and historic periods. The research design shall: a. Verify from the geological literature the Pleistocene age of the pebble terraces; b. Formulate archaeological research questions and testable hypotheses specifically applicable to the individual contributors (for example, hypotheses regarding the function of the thermal cobble features— cooking? lithic heat treatment? or both?) and to the PQAD overall; c. Define data sets needed to answer the formulated research questions; and d. Develop explicit CRHR-eligibility and NRHP-eligibility assessment criteria, correlated with the research questions and specifically referencing the data sets required to answer them, for the PQAD and for the thermal cobble features as a separate potential archaeological district. 2. Program for Evaluation, Data Recovery, and Possible Nomination: The data recovery program shall: a. Explain how the data sets that are anticipated for the PQAD will contribute to knowledge of the prehistoric and historic-period Native American themes of the research design and answer particular research questions; b. Set out the purposes and methods of the several field phases of the PQAD evaluation and data recovery program (Geophysical Test, Geophysical Survey/Mechanical Survey, Evaluation and Data Recovery); c. Set out the purposes and methods of the concomitant material analyses; and d. Describe the required reports of investigations, the resource registrations (if appropriate), and the process of producing them. 3. PQAD Arbitrary Provisional Boundary Definition: The CRS, PPA, and CPM shall derive and agree upon, in consultation, the precise location of an arbitrary provisional PQAD boundary on the surface of the plant site and in the vicinity of the linear facilities corridor. 4. Evaluation and Data Recovery Methodology a. Quarries: The protocol for the quarry sites simultaneously recovers data from the parts of the two quarry sites, CA-RIV-2846 and CA-RIV-3419, that the project would impact and allows an assessment of the significance of the impacts of the project to the two quarry sites and an assessment of the validity of the PQAD concept. i. Conduct a 100 percent pedestrian survey of the parts of the quarry sites that the project activities would disturb; ii. Map and field-record finished tools, diagnostic artifacts, ceramics, artifact concentrations and features (and the material types of each) within the impacted portions of the quarry sites. Indentify and quantify artifacts within a sample of no more than 1 percent of the impacted portions of the quarry sites using 2 by 2 meter surface units. Record any differential distribution of artifacts (with suggested explanations for the distribution), and assess the integrity of the site, providing evidence on which that opinion is based;	of the PQAD and a stratified random sample for a broader magnetometry survey of 10 percent of the PQAD within the project boundaries (maximum 2 acres) or a stratified random sample for a mechanical subsurface survey of 2.5 percent of the PQAD located inside the project's boundaries. 3. At least 60 days prior to the onset of BSPP construction-related ground disturbance in Unit 1 east of Historic Road SMB-H-601, the project owner shall ensure that the PPA completes the preliminary report on the formal inventory of the PQAD prepared by or under the direction of the CRS, and selection of separate samples for the data recovery excavation of 10 PQAD thermal cobble features, and four block exposures to reveal intact buried land surfaces there. The project owner shall ensure that the preliminary report is a concise document that provides descriptions of the schedule and methods of the inventory field effort, a preliminary tally of the numbers and, where feasible, the types of archaeological deposits that were found, a discussion of the potential range of error in that tally, and a map of the locations of the found archaeological deposits that has topographic contours and the project site landform designations as overlays. The results of the formal inventory, as set out in the preliminary report, shall be the basis for the refinement of the provisional district boundary. 4. At least 30 days prior to the start of BSPP construction-related ground disturbance in Unit 1east of Historic Road SMB-H-601, the project owner shall notify the CPM that the CRS has initiated the data recovery phases of the data recovery program. 5. At least 30 days prior to the start of ground disturbance within 30 meters of the site boundaries of the three isolated thermal cobble features, the project owner shall notify the CPM that the CRS has initiated data recovery on the three isolated thermal cobble features.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
iii. Collect for dating and source analyses any obsidian artifacts; iv. With the approval of BLM, conduct a survey of a 1 percent sample of randomly selected 10 X 10- meter units on the unimpacted portions of the quarry sites; v. Gather the same data in the same way as for the impacted parts of the quarry sites; vi. Compare these data to those gathered in the project-impacted parts of the sites vii. With approval of BLM, conduct a sample survey of a zone 150 meters wide totaling ½ the length of the northwest boundary of CA-RIV-3419. viii. Draw conclusions from the collected data on whether the parts of the quarry sites that would be destroyed by the project contribute significantly to the CRHR- and NRHP eligibility of the sites; ix. Draw conclusions from the collected data, if possible, on whether the merging of the quarries and the lithic scatter in a district is valid. x. raw conclusions from the collected data, if possible, on whether the merging of the quarries and the thermal cobble features in a district is valid. b. Thermal Cobble Features The protocol for the thermal cobble features shall include Phase I identification of possible additional subsurface contributors and compressed Phase II-Phase III evaluation and data recovery from a sample of intact sites or from all of the surface sites, whether intact or not. Phase I is geophysical and/or mechanical testing to determine the horizontal and vertical extent of the distribution of the thermal cobble features, to identify any buried intact examples of thermal cobble features out 100 meters, within the area subject to project impacts, from all surface examples, and to determine if morphological differences are present among the thermal cobble features. Phase II-Phase III (evaluation and data recovery) would reflect judgment that features only present on the surface would be register ineligible and the existing recordation, updated to reflect the test excavation, would be adequate data recovery. Features with subsurface deposits would be register eligible, and data recovery would ensue. Geophysical Test for Subsurface PQAD Contributing Thermal Cobble Features: i. Test, in a 1-acre parcel within 30 meters of known thermal cobble features, the efficacy of the use of magnetometry to locate buried examples of thermal cobble features; ii. Ground-truth by hand or mechanical excavation a minimum 25 percent sample (but no more than 5 individual anomalies) of the anomalies identified in the test survey; iii. Keep field notes and the forms for the survey areas sufficient to completely document the geophysical test; iv. Inform the CPM of the results of the magnetometry survey and groundtruthing and consult on the efficacy of continuing this survey method; Geophysical Survey for Subsurface PQAD Contributing Thermal Cobble Features: If the CRS and CPM agree, after consultation, that the geophysical test demonstrates that the use of magnetometry appears to be reasonably	6. At least 30 days prior to the start of ground disturbance within 30 meters of the northeastern portion of site CA-Riv-3419 that the project will impact, the project owner shall notify the CPM that the CRS has initiated the pedestrian surface survey of the northwestern edge of site CA-Riv-3419, with the permission of the BLM. 7. No longer than 90 days after the end of all construction-related ground disturbance, the project owner shall ensure that the CRS completes the preparation of the National Register of Historic Places and the California Register of Historical Resources nominations for the PQAD and submits the nominations to the State Historic Resources Commission for formal consideration. 8. No longer than 90 days after the end of all construction-related ground disturbance, the project owner shall ensure that the CRS completes the professional paper and provides the CPM with three copies of the final product of that effort, and prepares, and submits for the approval of the CPM, a public outreach product. Upon the CPM's approval of the latter product, the project owner shall ensure, as appropriate, the product's installation, implementation, or display. 9. No longer than 90 days after the end of all construction-related ground disturbance, the project owner shall ensure that the CRS completes the requisite material analyses for, prepare, and submits, for the approval of the CPM, the final cultural resources report for the Blythe cultural resources data recovery and monitoring activities. The final report shall provide descriptions of the schedule and methods of the data recovery effort, technical descriptions of excavated archaeological features and buried land surfaces that present the highest resolution of technical data that can be derived from the data recovery field notes, plan and, as appropriate, profile drawings and photographs of excavated archaeological features	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
effective in locating buried thermal cobble features, the project owner shall ensure that the PPA proceeds to a broader magnetometry survey of a sample of the area within the PQAD provisional district boundary. The PPA shall: i. Develop a single stratified random sample for the PQAD that would result in a magnetometry survey of a minimum of 10 percent (a maximum of 2 acres) of the total district area on the plant site; ii. Use criteria to derive the sample to derive the sample that the CRS, the PPA, and the CPM shall agree upon and that reflect the spatial variability in the physical material character and in the chronology of the PQAD, as such variability is presently known from the field investigations; iii. Ground-truth by hand or mechanical excavation the lesser of 10 percent or 10 individual anomalies of those identified in the test survey; iv. Inform the CMP of the results of the survey; v. Keep field notes and the forms for the survey are sufficient to completely document the geophysical survey; Mechanical Survey for Subsurface PQAD Contributing Thermal Cobble Features: If the CRS and CPM agree, after consultation, that the geophysical test demonstrates that the use of magnetometry appears to be ineffective in locating buried thermal cobble features, the project owner shall ensure that the PPA submits, for CPM review and approval, the CRS's and PPA's plan and methods for a mechanical subsurface survey of the PQAD, using construction equipment, such as a road grader or a backhoe that can work in 5-centimeter lifts. The plan and methods shall include: i. Use of transects, the proposed width and length of which the CPM would approve; ii. Removal of thin (no thicker than approximately 5 centimeters) layers to carefully expose target archaeological deposits iii. Survey of a minimum of 2.5 percent of the total PQAD area on the plant site; iv. Use criteria to derive the sample that the CRS, the PPA, and the CPM shall agree upon and that reflect the spatial variability in the physical and material character and in the chronology of the PQAD, as such variability is presently known from the field investigations; v. Preservation of found archaeological deposits until the conclusion of the survey to facilitate the formulation of a representative data recovery sample; vi. Consideration of the PPA recovering a sample of the buried land surfaces that may surround individual features or groups of features and documenting the material culture assemblages that may be found on such surfaces; vii. Verbal report to the CPM on the results of the survey; viii. Retention of field notes and the forms for the survey areas sufficient to completely document the mechanical survey. Data Recovery from Thermal Cobble Features: Data shall be recovered from a sample of the individual thermal cobble features to document these characteristic elements of the PQAD. The purpose of this documentation would be to describe the physical variability of the features, to identify and inventory the artifacts and ecofacts that are	and buried land surfaces, and technical descriptions and appropriate graphics of the stratigraphic contexts of excavated archaeological features and buried land surfaces.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
found in them, and to interpret the methods of construction and the potential uses of the features. The procedures below shall also be used for data recovery at the three non-PQAD thermal cobble features (sites SMB-H-164, SMB-M-214, SMB-M-418). Data recovery activities shall include: i. Excavation of a sample of 20 percent of thermal cobble features (not to exceed 10 features), drawn from all of the thermal cobble features found as a result of the entire cumulative effort to inventory these PQAD contributors; preference should be given to data recovery from intact, buried examples, if any identified in geophysical or mechanical survey; ii. Use of criteria to derive the sample that the CRS, the PPA, and the CPM shall agree upon and that reflect the spatial variability in the physical and material character and in the chronology of the PQAD, as such variability is presently known from the field investigations; iii. Excavation would entail small (approximately 1–3 meters square) areal exposures by hand, where feasible, to remove the archaeological deposits in anthropogenic layers, if present; iv. Retention of samples of each layer sufficient to submit for radiocarbon assays, and macrobotanical, palynological, geochemical, or other analyses; v. Screening of the balance of each layer through hardware cloth of no greater than 1/8-inch mesh; vi. Recordation of these small exposures in drawings and photographs; vii. Retention of field notes and the forms for the excavated features sufficient to acquire the complete complement of data necessary for the description of each feature and the interpretation of the construction and use of each feature to the satisfaction of the CPM; viii. Completions by PPA or CRS and submission by project owner to CPM and BLM of draft DPR 523C site forms for sites where data recovery completed. Data Recovery from Former Land Surfaces Surrounding Thermal Cobble Features: Data shall be recovered from a sample of buried land surfaces assumed to be adjacent to buried thermal cobble features, if any, identified during the geophysical or mechanical subsurface survey, to document the material culture assemblages and other evidence of behavior that may be found on such surfaces. The project owner shall ensure that the PPA: i. Develops, in consultation with the CRS and the CPM a sample of the potential buried surfaces, if any, that would be subject to excavation; ii. Uses criteria to derive the sample that the CRS, the PPA, and the CPM shall agree upon and that reflect the spatial variability in the physical and material character and in the chronology of the PQAD, as such variability is presently known from the field investigations; iii. Excavates by hand three large (3 meters square) block exposures, iv. Successfully recovers data from at least four block exposures, but must make no more than eight attempts to find buried surfaces around thermal cobble features.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
v. Removes the archaeological deposits from the top of the surface in anthropogenic layers, if present. Excavates each block exposure as a single excavation unit rather than as nine separate, one-meter-square excavation units; the PPA may excavate three continuous, 1-metersquare excavation units together across the center of the feature to assess the presence of a surface and then excavate the other six units if a surface is present;		
vi. Retains samples of each layer sufficient to submit for radiocarbon assays, and macrobotanical, palynological, geochemical, or other analyses;		
vii. Screens the balance of each layer through hardware cloth of no greater than 1/8-inch mesh;		
viii. Keeps field notes and the forms for the excavated features sufficient to acquire the complete complement of data necessary for the description of the distributions of artifacts and ecofacts across each surface, and the interpretation of the use of each surface, to the satisfaction of the CPM;		
5. Materials Analyses: The project owner shall ensure that the PQAD evaluation and data recovery plan articulates the anticipated scope of the analyses of the artifact and ecofact collections that cumulatively result from the investigations of the PQAD, articulates the analytic methods to be used, and articulates how the data sets that such analyses will produce are relevant to the themes and questions in the research design for the PQAD.		
6. Report of Investigations: The project owner shall ensure that the PQAD evaluation and data recovery plan states that a final report for the PQAD evaluation and data recovery plan Data Recovery Program is required and describes the content, production schedule, and approval process for the report.		
7. Provision of Results to the PTNCL PI: The project owner shall ensure that the CRS provides the data and results of the PQAD evaluation and data recovery plan Data Recovery Program to the PTNCL PI for incorporation into the PTNCL NRHP nomination.		
8. California Register of Historical Resources (CRHR) and National Register of Historic Places (NRHP) Registrations if appropriate. The project owner shall ensure that the PPA prepares a CRHR nomination and a NRHP nomination for the PQAD, including both the contributors located within the boundaries of the BSPP and such contributors, entire and partial, located beyond the boundaries of the BSPP, as are known or posited. The nominations should the PPA's best estimate of a boundary for the district, a boundary that the PPA shall derive on the basis of the results of the PQAD evaluation and data recovery program and present in the final report for that program. The project owner shall ensure that the CRS: a. submits the CRHR nomination to the State Historical Resources Commission for formal consideration of CRHR eligibility, b. submits the NRHP nomination to the State Historical Resources Commission to initiate the process of formal consideration by the Keeper of the National Register, and c. tracks and facilitates the review of both nominations to acceptance or rejection.		
9. Outreach Initiatives if PTNCL not eligible a. Professional Outreach. The project owner shall ensure that the CRS and/or PPA prepare a research paper and present it at a professional conference, to inform the professional archaeological community about the PQAD and to interpret its implications for our understanding of the prehistory and early history of Native American life in the region.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
b. Public Outreach. The project owner shall prepare and present materials that Interpret the PQAD for the public. Project owner shall propose at least one outreach project, examples may include one-time preparation of an instructional module or one-time preparation of a public interpretation brochure.		
CUL-7 DATA RECOVERY FOR SMALL PREHISTORIC SITES (LITHIC SCATTERS, CAIRNS, AND POT DROPS): The project owner shall ensure the CRMMP includes a data recovery plan for the resource type "small prehistoric sites," consisting of sites CA-Riv-1136, SMB-P-160, SMB-M-214, SMB-P-228, SMB-H-234, SMB-P-238, SMB-P-241, SMB-P-244, SMB-P-249, SMB-P-252, SMB-P-410, SMB-P-530, SMB-P-531, SMB-P-532, SMB-H-CT-001, SMB-H-TC-101, SMB-H-TC-103, and SMB-H-WG-102. This site list may be revised only with the agreement of the CRS and the CPM. The data recovery shall include use of the CARIDAP protocol on qualifying sites, how to proceed if features or other buried deposits are encountered, and the materials analyses and laboratory artifact analyses that will be used. The plan shall also specify in detail the location recordation equipment and methods used and describe any post-processing of the data. Prior to the start of ground disturbance within 30 meters of the sites boundaries of each of these sites, the project owner shall then ensure that the CRS, the PPA, and/or archaeological team members implement the plan, if allowed by the BLM, which, for sites where CARIDAP does not apply, shall include, but is not limited to the following tasks: 1. Use location recordation equipment that has the latest technology with sub-meter accuracy (such as UTM 11 North or California Teale Albers) to add to the original site maps the following features: seasonal drainages, site boundaries, location of each individual artifact, and the boundaries around individual artifact concentrations; 2. Request the PTNCL geoarchaeologist, or equivalent qualified person approved by the CPM and hired by the project owner should the PTNCL geoarchaeologist not be available, to identify the specific landform for each site; 3. Map and field-record all lithic artifacts (numbers of flakes, the reduction sequence stage each represents, cores, tool blanks, finished tools, hammerstones, and concentrations, and the material types of each) and the other types of prehistoric artifacts present 4. Map any differential distribution of artifacts and suggest explanations for the distribution 5. Assess the integrity of the site and provide the evidence substantiating that assessment; 6. Collect for dating and source analyses any obsidian artifacts; 7. Field record the surface location of all other artifacts and collect all ceramic artifacts and botanical and faunal remains for laboratory analysis and curation; 8. Surface scrape to a depth of 5 centimeters a 5-meter-by-5-meter area centered on the artifact concentration, field-record the lithic artifacts as to location, material type, and the reduction sequence stage each represents, record the location of all other artifacts, and retain the obsidian and ceramic artifacts and botanical and faunal remains for laboratory analysis and curation; 9. Excavate one 1-meter-by-1-meter unit in 10-centimeter levels until the unit reaches a depth of 20 centimeters below any anthropogenic materials, placing the unit in the part of the site with the highest artifact density and recording its locations on the site map;	1. At least 15 days prior to ground disturbance, the project owner shall notify the CPM that data recovery for small sites has ensued. 2. After the completion of the excavation of the first 1-meter-by-1-meter excavation unit at each of the subject sites, the CRS shall notify the CPM regarding the presence or absence of subsurface deposits and shall make a recommendation on the site's CRHR eligibility. 3. Within one week of the completion of data recovery at a site, the project owner shall submit a letter report written by the PPA or CRS for review and approval of the CPM. When the CPM approves the letter report, ground disturbance may begin at this site location.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
10. Place one 1-meter-by-1-meter excavation unit, as described above, in the center of each concentration if multiple artifact concentrations have been identified; 11. Notify the CPM by telephone or e-mail that subsurface deposits were or were not encountered and make a recommendation on the site's CRHR eligibility; 12. If no subsurface deposits were encountered, and the CPM agrees the site is not eligible for the CRHR, data recovery is complete; 13. If subsurface deposits are encountered, test the horizontal limits of the site by excavating additional 1-meter-by-1-meter excavation units in 10-centimeter levels until the unit reaches a depth of 20 centimeters below any anthropogenic materials, using a shovel or hand auger, or other similar technique, at four spots equally spread around the exterior edge of each site, recording the locations of these units on the site map; 14. Sample the encountered features or deposits, using the methods described in the CRMMP, record their locations on the site map, retain samples, such as flotation, pollen, and charcoal, for analysis, and retain all artifacts for professionally appropriate laboratory analyses and curation, until data recovery is complete; 15. Present the results of the **CUL-7** data recovery in a letter report by the PPA or CRS, which shall serve as a preliminary report. Letter reports may address one site, or multiple sites depending on the needs of the CRS. The letter report shall be a concise document the provides description of the schedule and methods used in the field effort, a preliminary tally of the numbers and types of features and deposits that were found, a discussion of the potential range of error for that tally, a map showing the location of excavation units including topographic contours and the site landforms, and a discussion of the CRHR eligibility of each site and the justification for that determination; 16. Update the existing Department of Parks and Recreation (DPR) 523 site form for these sites, including new data on seasonal drainages, site boundaries, location of each individual artifact, the boundaries around individual artifact concentrations, the landform, and the eligibility determination; and 17. Present the final results of data recovery at these prehistoric sites in the CRR, as described in **CUL-18**.		
CUL-8 DATA RECOVERY ON HISTORIC-PERIOD SITES WITH FEATURES: The project owner shall ensure the CRMMP includes a data recovery plan for the resource type "historic-period archaeological sites with features," consisting of sites SMB-H-143, SMB-H-163, SMB-H-203, SMB-H-205, SMB-H-207, SMB-H-210, SMB-H- 222, SMB-H-223, SMB-H-245, SMB-H-247, SMB-H-250, SMB-H-251, SMB-H- 409, SMB-H-411, SMB-H-416, and SMB-H-419. This site list may be revised only with the agreement of the CRS and the CPM. The data recovery shall include use of the CARIDAP protocol on qualifying sites, how to proceed if features or other buried deposits are encountered, and the materials analyses and laboratory artifact analyses that will be used. The plan shall also specify in detail the location recordation equipment and methods to be used and describe any anticipated post processing of the data. Prior to the start of ground disturbance within 30 meters of the sites boundaries of each of these sites, the project owner shall then ensure that the CRS, the PHA, and/or archaeological team members implement the plan, if allowed by the BLM, which shall include, but is not limited to the following tasks: 1. The project owner shall hire a PHA with the qualifications described in CUL-3 to supervise the field work.	1. At least 15 days prior to ground disturbance, the project owner shall notify the CPM that mapping and in-field artifact analysis has ensued on historic-period sites with features. 2. Within one week of completing data recovery at a site, the project owner shall submit to the CPM for review and approval a letter report written by the CRS, evidencing that the field portion of data recovery at each site has been completed. When the CPM approves the letter report, ground disturbance may begin at the site location(s) that are the subject of the letter report.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
2. The project owner shall, ensure that, prior to beginning the field work, the PHA and crew chief are trained by the DTCCL Historical Archaeologist, or equivalent qualified person approved by the CPM and hired by the project owner should the DTCCL Historical Archaeologist not be available, in the identification, analysis and interpretation of the artifacts, environmental modifications, and trash disposal patterns associated with the early phases of WWII land-based U.S. army activities, as researched and detailed by the DTCCL PI-Historian and the DTCCL Historical Archaeologist.		
3. The project owner shall ensure that, prior to beginning the field work, the field crew members are trained in the consistent and accurate identification of the full range of late nineteenth and early-to-mid-twentieth century can, bottle, and ceramic diagnostic traits.		
4. The project owner shall ensure that the original site map shall be updated to include at minimum: landform features such as small drainages, any man-made features, the limits of any artifact concentrations and features (previously known and newly found in the metal detector survey), using location recordation equipment that has the latest technology with submeter accuracy (such as UTM 11 North or California Teale Albers).		
5. The project owner shall ensure that a detailed in-field analysis of all artifacts shall be completed, if not done previously. Types of seams and closures for each bottle and all cans shall be documented. Photographs shall be taken of any text or designs. Unusual or unidentifiable artifacts may be collected for further analysis, but otherwise artifacts shall not be collected.		
6. The project owner shall ensure a systematic metal detector survey be completed at each site, and that each hit is investigated. All artifacts and features thus found must be mapped, measured, photographed, and fully described in writing.		
7. The project owner shall ensure that all features are recorded, and that any features having subsurface elements are excavated by a qualified historical archaeologist. All features and contents must be mapped, measured, photographed, and fully described in writing.		
8. The project owner shall ensure that the details of what is found at each site shall be presented in a letter report from the CRS or PHA ,which shall serve as a preliminary report, that details what was found at each site, as follows: a. Letter reports may address one site, or multiple sites depending on the needs of the CRS; and b. The letter report shall be a concise document that provides a description of the schedule and methods used in the field effort, a preliminary tally of the numbers and types of features and deposits that were found, a discussion of the potential range of error for that tally, and a map showing the location of collection and/or excavation units, including topographic contours and the site landforms.		
9. The project owner shall ensure that the data collected from the field work shall be provided to the DTCCL Historical Archaeologist to assist in the determination of which, if any, of the 12 historic-period sites are contributing elements to the DTCCL.		
10. The project owner shall ensure that the PHA analyzes all recovered data and writes or supervisors the writing of a comprehensive final report. This report shall be included in the CRR (CUL-18). Relevant portions of the information gathered shall be included in the possible NRHP nomination for the DTCCL (funded by **CUL-2**).		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
CUL-9 DATA RECOVERY ON HISTORIC-PERIOD SITES WITH STRUCTURES: The project owner shall ensure the CRMMP includes a data recovery plan for the resource type "historic-period archaeological sites with structures," consisting of sites SMB-H-404, SMB-H-432, and SMB-H-514. This site list may be revised only with the agreement of the CRS and the CPM. The data recovery shall include use of the CARIDAP protocol on qualifying sites, how to proceed if features or other buried deposits are encountered, and the materials analyses and laboratory artifact analyses that will be used. The plan shall also specify in detail the location recordation equipment and methods to be used and describe any anticipated post-processing of the data. Prior to the start of ground disturbance within 30 meters of the sites boundaries of each of these sites, the project owner shall then ensure that the CRS, the PHA, and/or archaeological team members implement the plan, if allowed by the BLM, which shall include, but is not limited to the following tasks: 1. The project owner shall hire a qualified historian to research the locations of these sites and attempt to determine their origins and functions from the historical record. 2. The project owner shall hire a PHA with the qualifications described in CUL-3 to supervise the field work. 3. The project owner shall, ensure that, prior to beginning the field work, the PHA and crew chief are trained by the DTCCL Historical Archaeologist, or equivalent qualified person approved by the CPM and hired by the project owner should the DTCCL Historical Archaeologist not be available, in the identification, analysis and interpretation of the artifacts, environmental modifications, and trash disposal patterns associated with the early phases of WWII land-based U.S. army activities, as researched and detailed by the DTCCL PI-Historian and the DTCCL Historical Archaeologist. 4. The project owner shall ensure that, prior to beginning the field work, the field crew members are trained in the consistent and accurate identification of the full range of late nineteenth and early-to-mid-twentieth-century can, bottle, and ceramic diagnostic traits. 5. The project owner shall ensure that the original site map shall be updated to include at minimum: landform features such as small drainages, any manmade features, the limits of any artifact concentrations and features (previously known and newly found in the metal detector survey), using location recordation equipment that has the latest technology with sub-meter accuracy (such as UTM 11 North or California Teale Albers). 6. The project owner shall ensure that a detailed in-field analysis of all artifacts shall be completed, if not done previously. Types of seams and closures for each bottle and all cans shall be documented. Photographs shall be taken of any text or designs. Unusual or unidentifiable artifacts may be collected for further analysis, but otherwise artifacts shall not be collected. 7. The project owner shall ensure a systematic metal detector survey be completed at each site, and that each —hit□ is investigated. All artifacts and features thus found must be mapped, measured, photographed, and fully described in writing. 8. The project owner shall ensure that all structures are mapped, measured, photographed, and fully described in writing, and that all associated features having subsurface elements are excavated by a qualified historical archaeologist. All features and contents must be mapped, measured, photographed, and fully described in writing. 9. The project owner shall ensure that the details of what is found at each site shall be presented in a letter report from the CRS or PHA ,which shall serve as a preliminary report, that details what was found at each site, as follows:	1. At least 15 days prior to ground disturbance, the project owner shall notify the CPM that mapping and in-field artifact analysis has ensued on historic-period sites with structures. 2. Within one week of completing data recovery at a site, the project owner shall submit to the CPM for review and approval a letter report written by the CRS, evidencing that the field portion of data recovery at each site has been completed. When the CPM approves the letter report, ground disturbance may begin at the site location(s) that are the subject of the letter report.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
a. Letter reports may address one site, or multiple sites depending on the needs of the CRS; and b. The letter report shall be a concise document the provides a description of the schedule and methods used in the field effort, a preliminary tally of the numbers and types of features and deposits that were found, a discussion of the potential range of error for that tally, and a map showing the location of collection and/or excavation units, including topographic contours and the site landforms. 10. The project owner shall ensure that the data collected from the field work shall be provided to the DTCCL Historical Archaeologist to assist in the determination of which, if any, of the three historic-period sites are contributing elements to the DTCCL. 11. The project owner shall ensure that the PHA analyzes all recovered data and writes or supervises the writing of a comprehensive final report. This report shall be included in the CRR (**CUL-18**). Relevant portions of the information gathered shall be included in the possible NRHP nomination for the DTCCL (funded by **CUL-2**).		
CUL-10 DATA RECOVERY ON HISTORIC-PERIOD DUMP SITES: The project owner shall ensure the CRMMP includes a data recovery plan for the resource type "historic-period dump sites," consisting of sites SMB-H-171, SMB-H-178, SMB-H-224, SMB-H-403, and SMB-H-427 on the proposed plant site and sitesSMB-H-261/262 and SMB-H-522/525 along the linear facilities corridor if impacts to the latter cannot be avoided by spanning. This site list may be revised only with the agreement of the CRS and the CPM. The data recovery shall include use of the CARIDAP protocol on qualifying sites, how to proceed if features or other buried deposits are encountered, and the materials analyses and laboratory artifact analyses that will be used. The plan shall also specify in detail the location recordation equipment and methods to be used and describe any anticipated post-processing of the data. Prior to the start of ground disturbance within 30 meters of the sites boundaries of each of these sites, the project owner shall then ensure that the CRS, the PHA, and/or archaeological team members implement the plan, if allowed by the BLM, which shall include, but is not limited to the following tasks: 1. The project owner shall hire a PHA with the qualifications described in CUL-3 to supervise the field work. 2. The project owner shall, ensure that, prior to beginning the field work, the PHA and crew chief are trained by the DTCCL Historical Archaeologist, or equivalent qualified person approved by the CPM and hired by the project owner should the DTCCL Historical Archaeologist not be available, in the identification, analysis and interpretation of the artifacts, environmental modifications, and trash disposal patterns associated with the early phases of WWII land-based U.S. army activities, as researched and detailed by the DTCCL PI-Historian and the DTCCL Historical Archaeologist. 3. The project owner shall ensure that, prior to beginning the field work, the field crew members are trained in the consistent and accurate identification of the full range of late nineteenth and early-to-mid-twentieth-century can, bottle, and ceramic diagnostic traits. 4. The project owner shall ensure that the original site map shall be updated to include at minimum: landform features such as small drainages, any manmade features, the limits of any artifact concentrations and features, using location recordation equipment that has the latest technology with sub-meter accuracy (such as UTM 11 North or California Teale Albers). 5. The project owner shall ensure that each dump is entirely mapped, measured, photographed, and fully described in writing.	1. At least 15 days prior to ground disturbance, the project owner shall notify the CPM that mapping and in-field artifact analysis has ensued on historic-period dump sites. 2. Within one week of completing data recovery at a site, the project owner shall submit to the CPM for review and approval a letter report written by the CRS, evidencing that the field portion of data recovery at each site has been completed. When the CPM approves the letter report, ground disturbance may begin at the site location(s) that are the subject of the letter report.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
6. The project owner shall ensure that 10 percent of the surface contents of each dump is recorded as follows: a. Apply a 1-meter x 1-meter grid to the entire dump and randomly select 10 percent of the units. b. Do a detailed in-field analysis of all artifacts in each unit, documenting the measurements and the types of seams and closures for each bottle, and the measurements, seams, closure, and opening method for all cans. Photographs shall be taken of maker's marks on bottles, any text or designs on bottles and cans, and of decorative patterns and maker's marks on ceramics. Unusual or unidentifiable artifacts may be collected for further analysis, but otherwise artifacts shall not be collected. c.. If any subsurface elements are found in the units, a qualified historical archaeologist shall excavate the part in the unit. All features and contents must be mapped, measured, photographed, and fully described in writing. 7. The project owner shall ensure that the details of what is found at each site shall be presented in a letter report from the CRS or PHA ,which shall serve as a preliminary report, that details what was found at each site, as follows: a. Letter reports may address one site, or multiple sites depending on the needs of the CRS; and b. The letter report shall be a concise document the provides a description of the schedule and methods used in the field effort, a preliminary tally of the numbers and types of features and deposits that were found, and a map showing the location of collection and/or excavation units, including topographic contours and the site landforms. c. The letter report for each site shall present preliminary conclusions regarding the period(s) of use of the dump and suggest who the possible users were in each represented period. 8. The project owner shall ensure that the data collected from the field work shall be provided to the DTCCL Historical Archaeologist to assist in the determination of which, if any, of the five historic-period dump sites are contributing elements to the DTCCL. 9. The project owner shall ensure that the PHA analyzes all recovered data and writes or supervises the writing of a comprehensive final report. This report shall be included in the CRR (CUL-18). Relevant portions of the information gathered shall be included in the possible NRHP nomination for the DTCCL (funded by CUL-2).		
CUL-11 DATA RECOVERY ON HISTORIC-PERIOD REFUSE SITES: The project owner shall ensure the CRMMP includes a data recovery plan for the resource type "historic-period refuse sites," consisting of sites SMB-H-164, SMB-H-166, SMB-H-181, SMB-H-287, SMB-H-288, and SMB-H-423 (SMB-H-164 also has a probable prehistoric thermal cobble feature for which assessment and data recovery would be accomplished under **CUL-6**.). The focus of the recordation upgrade is to determine if these sites can be attributed to the DTC/C-AMA use of the region and are therefore contributors to the DTCCL. This site list may be revised only with the agreement of the CRS and the CPM. The data recovery shall include use of the CARIDAP protocol on qualifying sites, how to proceed if features or other buried deposits are encountered, and the materials analyses and laboratory artifact analyses that will be used. The plan shall also specify in detail the location recordation equipment and methods to be used and describe any anticipated post-processing of the data. Prior to the start of ground disturbance within 30 meters of the sites boundaries of each of these sites, the project owner shall then ensure that the CRS, the PHA, and/or archaeological team members implement the plan, if allowed by the BLM, which shall include, but is not limited to the following tasks: 1. The project owner shall hire a PHA with the qualifications described in CUL-3 to supervise the field work.	1. At least 15 days prior to ground disturbance, the project owner shall notify the CPM that mapping and upgraded in-field artifact analysis has ensued on six historic-period refuse scatter sites. 2. Within one week of completing data recovery at a site, the project owner shall submit to the CPM for review and approval a letter report written by the CRS, evidencing that the field portion of data recovery at each site has been completed. When the CPM approves the letter report, ground disturbance may begin at the site location(s) that are the subject of the letter report.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
2. The project owner shall, ensure that, prior to beginning the field work, the PHA and crew chief are trained by the DTCCL Historical Archaeologist, or equivalent qualified person approved by the CPM and hired by the project owner should the DTCCL Historical Archaeologist not be available, in the identification, analysis and interpretation of the artifacts, environmental modifications, and trash disposal patterns associated with the early phases of WWII land-based U.S. army activities, as researched and detailed by the DTCCL PI-Historian and the DTCCL Historical Archaeologist.		
3. The project owner shall ensure that, prior to beginning the field work, the field crew members are trained in the consistent and accurate identification of the full range of late nineteenth and early-to-mid-twentieth century can, bottle, and ceramic diagnostic traits.		
4. The project owner shall ensure that the original site map shall be updated to include at minimum: landform features such as small drainages, any man-made features, the limits of any artifact concentrations and features (previously known and newly found in the metal detector survey), using location recordation equipment that has the latest technology with submeter accuracy (such as UTM 11 North or California Teale Albers).		
5. The project owner shall ensure that a detailed in-field analysis of all artifacts types shall be completed, documenting the measurements and the types of seams and closures for each bottle, and the measurements, seams, closure, and opening method for all cans. Photographs shall be taken of maker's marks on bottles, any text or designs on bottles and cans, and of decorative patterns and maker's marks on ceramics. Artifacts shall not be collected.		
6. The project owner shall ensure that all structures are mapped, measured, photographed, and fully described in writing, and that all associated features having subsurface elements are excavated by a qualified historical archaeologist. All features and contents must be mapped, measured, photographed, and fully described in writing. 8. The project owner shall ensure that the details of what is found at each site shall be presented in a letter report from the CRS or PHA ,which shall serve as a preliminary report, that details what was found at each site, as follows: a. Letter reports may address one site, or multiple sites depending on the needs of the CRS; and b. The letter report shall be a concise document the provides a description of the schedule and methods used in the field effort, a preliminary tally of the numbers and types of features and deposits that were found, a discussion of the potential range of error for that tally, and a map showing the location of collection and/or excavation units, including topographic contours and the site landforms. c. The letter report shall make a recommendation on whether each site is a contributor to the DTTCL.		
7. The project owner shall ensure that the data collected from the field work shall be provided to the DTCCL Historical Archaeologist to assist in the determination of which, if any, of the six historic-period sites are contributing elements to the DTCCL.		
8. The project owner shall ensure that the PHA analyzes all recovered data and writes or supervisors the writing of a comprehensive final report. This report shall be included in the CRR (**CUL-18**). Relevant portions of the information gathered shall be included in the possible NRHP nomination for the DTCCL (funded by **CUL-2**).		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
CUL-12 DATA RECOVERY ON HISTORIC-PERIOD ROADS: The project owner shall ensure that a qualified architectural historian (must meet the U.S. Secretary of the Interior's Professional Qualifications Standards for historian, as published in Title 36, Code of Federal Regulations, part 61) conducts research and writes a report on the age and use of two historic period, unimproved roads (SMB-H-600, SMB-H-601), with particular attention paid to their role during the use of the area by the U. S. Army in World War II training maneuvers (DTC/C-AMA). The project owner shall provide the historian's report to the DTCCL PI Historian for use in the possible DTCCL NRHP nomination. The project owner may undertake this task prior to Energy Commission certification of the project.	1. At least 15 days prior to ground disturbance, the project owner shall submit to the PM the historian's report documenting the age and historical use of the two roads. 2. Within 15 days after the CPM approves the report, the project owner shall forward it to the DTCCL PI-Historian.	CEC/BLM
CUL-13 ARCHIVAL RESEARCH ON BLYTHE ARMY AIR BASE RESERVOIR PIPELINES: The project owner shall ensure that a qualified architectural historian (must meet the U.S. Secretary of the Interior's Professional Qualifications Standards for historian, as published in Title 36, Code of Federal Regulations, part 61) conducts research to establish the current existence and locations of the water supply pipelines that connect the Blythe Army Air Base Reservoir pipelines to the former Blythe Army Air Base. The project owner shall ensure that the construction of the project's underground facilities that cross these old pipelines avoids impacting them. The project owner shall provide the historian's report to the DTCCL PI Historian for use in the possible DTCCL NRHP nomination. The project owner may undertake this task prior to Energy Commission certification of the project.	1. At least 15 days prior to excavating any trenches crossing the old Blythe Army Air Base Reservoir water pipelines, the project owner shall submit to the CPM the historian's report verifying the current presence or absence of the pipelines and, if they are present, a plan indicating how they will be avoided. 2. Within 15 days after the CPM approves the report, the project owner shall forward it to the DTCCL PI-Historian	CEC/BLM
CUL-14 ARCHIVAL RESEARCH ON RADIO COMMUNICATIONS FACILITY: The project owner shall ensure that a qualified architectural historian (must meet the U.S. Secretary of the Interior's Professional Qualifications Standards for historian, as published in Title 36, Code of Federal Regulations, part 61) conducts research to evaluate the CRHR eligibility of the radio communications facility, considering all pertinent register criteria, as well as integrity. If the facility is recommended as CRHR-eligible, the project owner shall propose ways to avoid or mitigate, to a less than significant level, the project's impacts to the facility's integrity of setting and integrity of feeling. The project owner may undertake this task prior to Energy Commission certification of the project	1. At least 45 days prior to construction, the project owner shall submit to the CPM the historian's recommendation, with supporting evidence, on the eligibility of the radio communications facility and, if it is eligible, a plan indicating how the project's impacts to the facility's integrity of setting and integrity of feeling will be avoided or mitigated to a less than significant level. 2. At least 30 days prior to construction, the project owner shall implement those elements of the submitted avoidance/mitigation plan approved by the CRS.	CEC/BLM
CUL-15 WORKER ENVIRONMENTAL AWARENESS PROGRAM (WEAP): Prior to and for the duration of ground disturbance, the project owner shall provide Worker Environmental Awareness Program (WEAP) training to all new workers within their first week of employment at the project site, along the linear facilities routes, and at laydown areas, roads, and other ancillary areas. The training shall be prepared by the CRS, may be conducted by any member of the archaeological team, and may be presented in the form of a video. The CRS shall be available (by telephone or in person) to answer questions posed by employees. The training may be discontinued when ground disturbance is completed or suspended, but must be resumed when ground disturbance, such as landscaping, resumes.	1. At least 30 days prior to the beginning of ground disturbance, the CRS shall provide the training program draft text and graphics and the informational brochure to the CPM for review and approval. 2. At least 15 days prior to the beginning of ground disturbance, the CPM will provide to the project	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
The training shall include: 1. A discussion of applicable laws and penalties under the law; 2. Samples or visuals of artifacts that might be found in the project vicinity; 3. A discussion of what such artifacts may look like when partially buried, or wholly buried and then freshly exposed; 4. A discussion of what prehistoric and historical archaeological deposits look like at the surface and when exposed during construction, and the range of variation in the appearance of such deposits; 5. Instruction that the CRS, alternate CRS, and CRMs have the authority to halt ground disturbance in the area of a discovery to an extent sufficient to ensure that the resource is protected from further impacts, as determined by the CRS; 6. Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources discovery and shall contact their supervisor and the CRS or CRM, and that redirection of work would be determined by the construction supervisor and the CRS; 7. An informational brochure that identifies reporting procedures in the event of a discovery; 8. An acknowledgement form signed by each worker indicating that they have received the training; and 9. A sticker that shall be placed on hard hats indicating that environmental training has been completed. 10. No ground disturbance shall occur prior to implementation of the WEAP program, unless such activities are specifically approved by the CPM.	owner a WEAP Training Acknowledgement form for each WEAP trained worker to sign. 3. Monthly, until ground disturbance is completed, the project owner shall provide in the Monthly Compliance Report (MCR) the WEAP Training Acknowledgement forms of workers who have completed the training in the prior month and a running total of all persons who have completed training to date.	
CUL-16 CONSTRUCTION MONITORING PROGRAM: The project owner shall ensure that the CRS, alternate CRS, or CRMs, to prevent construction impacts to undiscovered resources and to ensure that known resources are not impacted in an unanticipated manner, monitor full time all ground disturbance: 1. in the areas recommended by the geoarchaeological study to the depth recommended; 2. for the trenches for underground communication lines and the natural gas pipeline; 3. for the holes for the transmission line support structures 4. in the parts of sites CA-Riv-2846 and CA-Riv-3419 that the project will grade away, in the area inside project boundaries within 1,000 feet of the margins of archaeological sites CA-Riv-2846 and CA-Riv-3419 and within 300 feet of all known and discovered examples of thermal cobble features; 5. And for the jack-and-bore tunneling for underground conductor or cable lines or pipelines, that they monitor the excavation of the jack-and-bore entry and exit pits and examine, log, and screen auger backdirt samples, as detailed in the CRMMP. Full-time archaeological monitoring for this project shall be the archaeological monitoring of the earth-removing activities in the areas specified in the previous paragraph, for as long as the activities are ongoing. Where excavation equipment is actively removing dirt and hauling the excavated material farther than fifty feet from the location of active excavation, full-time archaeological monitoring shall require at least two monitors per excavation area. In this circumstance, one monitor shall	1. At least 30 days prior to the start of ground disturbance, the CPM will provide to the CRS an electronic copy of a form to be used as a daily monitoring log. 2. Monthly, while monitoring is on-going, the project owner shall include in each MCR a copy of the monthly summary report of cultural resources-related monitoring prepared by the CRS and shall attach any new DPR 523A forms completed for finds treated prescriptively, as specified in the CRMMP. 3. At least 24 hours prior to implementing a proposed change in monitoring level, the project owner shall submit to the CPM, for review and approval, a letter or e-mail (or some other form of communication acceptable to the CPM) detailing the CRS's justification for changing the monitoring level.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
observe the location of active excavation and a second monitor shall inspect the dumped material. For excavation areas where the excavated material is dumped no farther than fifty feet from the location of active excavation, one monitor shall both observe the location of active excavation and inspect the dumped material. A Native American monitor shall be obtained to monitor ground disturbance in areas where Native American artifacts may be discovered. Contact lists of interested Native Americans and guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area that shall be monitored. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM. The CPM will either identify potential monitors or will allow ground disturbance to proceed without a Native American monitor. The research design in the CRMMP shall govern the collection, treatment, retention/disposal, and curation of any archaeological materials encountered. On forms provided by the CPM, CRMs shall keep a daily log of any monitoring and other cultural resources activities and any instances of noncompliance with the Conditions and/or applicable LORS. Copies of the daily monitoring logs shall be provided by the CRS to the CPM, if requested by the CPM. From these logs, the CRS shall compile a monthly monitoring summary report to be included in the MCR. If there are no monitoring activities, the summary report shall specify why monitoring has been suspended. The CRS or alternate CRS shall report daily to the CPM on the status of the project's cultural resources-related activities, unless reducing or ending daily reporting is requested by the CRS and approved by the CPM. In the event that the CRS believes that the current level of monitoring is not appropriate in certain locations, a letter or e-mail detailing the justification for changing the level of monitoring shall be provided to the CPM for review and approval prior to any change in the level of monitoring. The CRS, at his or her discretion, or at the request of the CPM, may informally discuss cultural resources monitoring and mitigation activities with Energy Commission technical staff. Cultural resources monitoring activities are the responsibility of the CRS. Any interference with monitoring activities, removal of a monitor from duties assigned by the CRS, or direction to a monitor to relocate monitoring activities by anyone other than the CRS shall be considered non-compliance with these Conditions. Upon becoming aware of any incidents of non-compliance with the Conditions and/or applicable LORS, the CRS and/or the project owner shall notify the CPM by telephone or e-mail within 24 hours. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the Conditions. When the issue is resolved, the CRS shall write a report describing the issue, the resolution of the issue, and the effectiveness of the resolution measures. This report shall be provided in the next MCR for the review of the CPM.	4. Daily, as long as no cultural resources are found, the CRS shall provide a statement that "no cultural resources over 50 years of age were discovered" to the CPM as an e-mail or in some other form of communication acceptable to the CPM. 5. Weekly, during jack-and-bore tunneling for the underground transmission line, the project owner shall provide the CPM with copies of the soil and sediment descriptions and auger-backdirt screening logs kept by the CRS, alternate CRS, or CRMs, as detailed in the CRMMP. 6. At least 24 hours prior to reducing or ending daily reporting, the project owner shall submit to the CPM, for review and approval, a letter or e-mail (or some other form of communication acceptable to the CPM) detailing the CRS's justification for reducing or ending daily reporting. 7. No later than 30 days following the discovery of any Native American cultural materials, the project owner shall submit to the CPM copies of the information transmittal letters sent to the Chairpersons of the Native American tribes or groups who requested the information. Additionally, the project owner shall submit to the CPM copies of letters of transmittal for all subsequent responses to Native American requests for notification, consultation, and reports and records. 8. Within 15 days of receiving them, the project owner shall submit to the CPM copies of any comments or information provided by Native Americans in response to the project owner's transmittals of information.	
CUL-17 The project owner shall grant authority to halt ground disturbance to the CRS, alternate CRS, PPA, PHA, and the CRMs in the event of a discovery. Redirection of ground disturbance shall be accomplished under the direction of the construction supervisor in consultation with the CRS. In the event that a cultural resource over 50 years of age is found (or if younger, determined exceptionally significant by the CPM), or impacts to such a resource can be anticipated, ground disturbance shall be halted or redirected in the immediate vicinity of the discovery sufficient to ensure that the resource is	1. At least 30 days prior to the start of ground disturbance, the project owner shall provide the CPM and CRS with a letter confirming that the CRS, alternate CRS, PPA, PHA, and CRMs have the authority to halt ground disturbance in the	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
protected from further impacts. Monitoring and daily reporting, as provided in other conditions, shall continue during the project's ground-disturbing activities elsewhere. The halting or redirection of ground disturbance shall remain in effect until the CRS has visited the discovery, and all of the following have occurred: 1. The CRS has notified the project owner, and the CPM has been notified within 24 hours of the discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning, including a description of the discovery (or changes in character or attributes), the action taken (i.e., work stoppage or redirection), a recommendation of CRHR eligibility, and recommendations for data recovery from any cultural resources discoveries, whether or not a determination of CRHR eligibility has been made. 2. If the discovery would be of interest to Native Americans, the CRS has notified all Native American groups that expressed a desire to be notified in the event of such a discovery. 3. The CRS has completed field notes, measurements, and photography for a DPR 523 Primary form. Unless the find can be treated prescriptively, as specified in the CRMMP, the Description entry of the DPR 523 Primary form shall include a recommendation on the CRHR eligibility of the discovery. The project owner shall submit completed forms to the CPM. 4. The CRS, the project owner, and the CPM have conferred, and the CPM has concurred with the recommended eligibility of the discovery and approved the CRS's proposed data recovery, if any, including the curation of the artifacts, or other appropriate mitigation; and any necessary data recovery and mitigation have been completed.	vicinity of a cultural resources discovery, and that the project owner shall ensure that the CRS notifies the CPM within 24 hours of a discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning. 2. Within 48 hours of the discovery of a resource of interest to Native Americans, the project owner shall ensure that the CRS notifies all Native American groups that expressed a desire to be notified in the event of such a discovery. 3. Unless the discovery can be treated prescriptively, as specified in the CRMMP, completed DPR 523 forms for resources newly discovered during ground disturbance shall be submitted to the CPM for review and approval no later than 24 hours following the notification of the CPM, or 48 hours following the completion of data recordation/recovery, whichever the CRS decides is more appropriate for the subject cultural resource.	
CUL-18 The project owner shall submit the final Cultural Resources Report (CRR) to the CPM for review and comment and to the BLM Palm Springs archaeologist for review and approval . The final CRR shall be written by or under the direction of the CRS. The final CRR shall report on all field activities including dates, times and locations, results, samplings, and analyses. All survey reports, revised and final Department of Parks and Recreation (DPR) 523 forms, data recovery reports, and any additional research reports not previously submitted to the California Historical Resource Information System (CHRIS) and the State Historic Preservation Officer (SHPO) shall be included as appendices to the final CRR. If the project owner requests a suspension of ground disturbance and/or construction activities, then a draft CRR that covers all cultural resources activities associated with the project shall be prepared by the CRS and submitted to the CPM and to the BLM Palm Springs archaeologist for review and approval on the same day as the suspension/extension request. The draft CRR shall be retained at the project site in a secure facility until ground disturbance and/or construction resumes or the project is withdrawn. If the project is withdrawn, then a final CRR shall be submitted to the CPM for review and approval at the same time as the withdrawal request.	1. Within 30 days after requesting a suspension of construction activities, the project owner shall submit a draft CRR to the CPM for review and approval. 2. Within 180 days after completion of ground disturbance (including landscaping), the project owner shall submit the final CRR to the CPM for review and approval and to the BLM Palm Springs Field Office archaeologist for review and approval. If any reports have previously been sent to the CHRIS, then receipt letters from the CHRIS or other verification: of receipt shall be included in an appendix. 3. Within 10 days after the CPM and the BLM Palm Springs Field Office archaeologist approve the CRR, the project owner shall provide documentation to the CPM confirming that copies	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
	of the final CRR have been provided to the SHPO, the CHRIS, the curating institution, if archaeological materials were collected, and to the Tribal Chairpersons of any Native American groups requesting copies of project-related reports.	
CUL-19 If provisions in the BLM Blythe Solar Power Plant Programmatic Agreement and associated implementation and monitoring programs conflict with or duplicate these Conditions of Certification, the BLM provisions shall take precedence. Provisions in these conditions that are additional to or exceed BLM provisions and represent requirements under the Energy Commission's CEQA responsibilities shall continue to apply to the project's activities, contingent on BLM's approval.		CEC/BLM
NOISE AND VIBRATION		
NOISE-1 At least 15 days prior to the start of ground disturbance, the project owner shall notify all residents within one mile of the project site and the linear facilities, by mail or by other effective means, of the commencement of project construction. At the same time, the project owner shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the project. If the telephone is not staffed 24 hours a day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the project site during construction where it is visible to passersby. This telephone number shall be maintained until the project has been operational for at least one year.	Prior to ground disturbance, the project owner shall transmit to the compliance project manager (CPM) a statement, signed by the project owner's project manager, stating that the above notification has been performed, and describing the method of that notification. This communication shall also verify that the telephone number has been established and posted at the site, and shall provide that telephone number.	CEC/BLM
NOISE-2 Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints. The project owner or authorized agent shall: use the Noise Complaint Resolution Form (below), or a functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint; attempt to contact the person(s) making the noise complaint within 24 hours; conduct an investigation to determine the source of noise in the complaint; if the noise is project related, take all feasible measures to reduce the source of the noise; and submit a report documenting the complaint and actions taken. The report shall include: a complaint summary, including the final results of noise reduction efforts and, if obtainable, a signed statement by the complainant stating that the noise problem has been resolved to the complainant's satisfaction.	Within five days of receiving a noise complaint, the project owner shall file a Noise Complaint Resolution Form, shown below, with both the local jurisdiction and the CPM, that documents the resolution of the complaint. If mitigation is required to resolve the complaint, and the complaint is not resolved within a three-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is performed and complete.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
NOISE AND VIBRATION (cont.)		
NOISE-3 The project owner shall submit to the CPM for review and approval a noise control program. The noise control program shall be used to reduce employee exposure to high (above permissible) noise levels during construction in accordance to the applicable OSHA and Cal-OSHA standards.	At least 30 days prior to the start of ground disturbance, the project owner shall submit the noise control program to the CPM. The project owner shall make the program available to Cal-OSHA upon request.	CEC/BLM
NOISE-4 The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that the operation of the project will not cause the noise levels due to plant operation alone, during the daytime hours of 7 a.m. to 10 p.m. to exceed an average of 49 dBA Leq measured at or near monitoring location LT. No new pure-tone components shall be caused by the project. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. A. When the project first achieves a sustained output of 85% or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey at monitoring location LT, or at a closer location acceptable to the CPM. This survey shall also include measurement of one-third octave band sound pressure levels to ensure that no new pure-tone noise components have been caused by the project. The measurement of power plant noise for the purposes of demonstrating compliance with this condition of certification may alternatively be made at a location, acceptable to the CPM, closer to the plant (e.g., 400 feet from the plant boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the affected residence. The character of the plant noise shall be evaluated at the affected receptor locations to determine the presence of pure tones or other dominant sources of plant noise. B. If the results from the noise survey indicate that the power plant noise at the affected receptor site exceeds the above value during the above time period, mitigation measures shall be implemented to reduce noise to a level of compliance with this limit. C. If the results from the noise survey indicate that pure tones are present, mitigation measures shall be implemented to eliminate the pure tones.	The survey shall take place within 30 days of the project first achieving a sustained output of 85% or greater of rated capacity. Within 15 days after completing the survey, the project owner shall submit a summary report of the survey to the CPM. Included in the survey report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limit, and a schedule, subject to CPM approval, for implementing these measures. When these measures are in place, the project owner shall repeat the noise survey. Within 15 days of completion of the new survey, the project owner shall submit to the CPM a summary report of the new noise survey, performed as described above and showing compliance with this condition.	CEC/BLM
NOISE-5 Following the project's attainment of a sustained output of 85% or greater of its rated capacity, the project owner shall conduct an occupational noise survey to identify any noise hazardous areas in the facility. The survey shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations, sections 5095-5099 (Article 105) and Title 29, Code of Federal Regulations, section 1910.95. The survey results shall be used to determine the magnitude of employee noise exposure. The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures to be employed in order to comply with the applicable California and federal regulations.	Within 30 days after completing the survey, the project owner shall submit the noise survey report to the CPM. The project owner shall make the report available to OSHA and Cal-OSHA upon request.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
NOISE AND VIBRATION (cont.)		
NOISE-6 Heavy equipment operation and noisy construction work relating to any project features within ¼ mile of an existing residence shall be restricted to the times delineated below, unless a special permit has been issued by the County of Riverside: Mondays through Fridays: June through September: 6 a.m. to 7 p.m. October through May: 6 a.m. to 6 p.m. Saturdays: 9 a.m. to 5 p.m. Sundays and Federal holidays: No Construction Allowed Haul trucks and other engine-powered equipment shall be equipped with adequate mufflers. Haul trucks shall be operated in accordance with posted speed limits. Truck engine exhaust brake use shall be limited to emergencies.	Prior to ground disturbance, the project owner shall transmit to the CPM a statement acknowledging that the above restrictions will be observed throughout the construction of the project.	CEC/BLM
NOISE-7 If a traditional, high-pressure steam blow process is used the project owner shall equip steam blow piping with a temporary silencer that quiets the noise of steam blows to no greater than 89 dBA measured at a distance of 100 feet. The steam blows shall be conducted between 8:00 a.m. and 5:00 p.m. unless arranged with the CPM such that offsite impacts would not cause annoyance to receptors. If a low-pressure, continuous steam blow process is used, the project owner shall submit to the CPM a description of the process, with expected noise levels and planned hours of steam blow operation.	At least 15 days prior to the first steam blow, the project owner shall notify all residents or business owners within one mile of the project site boundary. The notification may be in the form of letters, phone calls, fliers, or other effective means as approved by the CPM. The notification shall include a description of the purpose and nature of the steam blow(s), the planned schedule, expected sound levels, and explanation that it is a one-time activity and not part of normal plant operation.	CEC/BLM
GEOLOGY, PALEONTOLOGY AND MINERALS		
GEO-1 The Soils Engineering Report required by Section 1802A of the 2007 CBC should specifically include laboratory test data, associated geotechnical engineering analyses, and a thorough discussion of corrosive soils, hydrocompaction or dynamic compaction; and the presence of expansive clay soils. The report should also include recommendations for ground improvement and/or foundation systems necessary to mitigate these potential geologic hazards, if present.	The project owner shall include in the application for a grading permit a copy of the Soils Engineering Report which addresses the potential for liquefaction; settlement due to compressible soils, ground water withdrawal, hydrocompaction, or dynamic compaction; and the possible presence of expansive clay soils, and a summary of how the results of the analyses were incorporated into the project foundation and grading plan design for review and comment by the Chief Building Official (CBO). A copy of the Soils Engineering Report, application for grading permit and any comments by the CBO are to be provided to the CPM at least 30 days prior to grading.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GEOLOGY, PALEONTOLOGY AND MINERALS (cont.)		
PAL-1 The project owner shall provide the CPM with the resume and qualifications of its PRS for review and approval. If the approved PRS is replaced prior to completion of project mitigation and submittal of the Paleontologic Resources Report, the project owner shall obtain CPM approval of the replacement PRS. The project owner shall keep resumes on file for qualified paleontologic resource monitors (PRMs). If a PRM is replaced, the resume of the replacement PRM shall also be provided to the CPM. The PRS resume shall include the names and phone numbers of references. The resume shall also demonstrate to the satisfaction of the CPM the appropriate education and experience to accomplish the required paleontologic resource tasks. As determined by the CPM, the PRS shall meet the minimum qualifications for a vertebrate paleontologist as described in the Society of Vertebrate Paleontology (SVP) guidelines of 1995. The experience of the PRS shall include the following: 1. Institutional affiliations, appropriate credentials, and college degree; 2. Ability to recognize and collect fossils in the field; 3. Local geologic and biostratigraphic expertise; 4. Proficiency in identifying vertebrate and invertebrate fossils; and 5. At least three years of paleontologic resource mitigation and field experience in California and at least one year of experience leading paleontologic resource mitigation and field activities. The project owner shall ensure that the PRS obtains qualified paleontologic resource monitors to monitor as he or she deems necessary on the project. Paleontologic resource monitors (PRMs) shall have the equivalent of the following qualifications: BS or BA degree in geology or paleontology and one year of experience monitoring in California; or AS or AA in geology, paleontology, or biology and four years' experience monitoring in California; or Enrollment in upper division classes pursuing a degree in the fields of geology or paleontology and two years of monitoring experience in California.	(1) At least 60 days prior to the start of ground disturbance, the project owner shall submit a resume and statement of availability of its designated PRS for on-site work. (2) At least 20 days prior to ground disturbance, the PRS or project owner shall provide a letter with resumes naming anticipated monitors for the project, stating that the identified monitors meet the minimum qualifications for paleontologic resource monitoring required by the condition. If additional monitors are obtained during the project, the PRS shall provide additional letters and resumes to the CPM. The letter shall be provided to the CPM no later than one week prior to the monitor's beginning on-site duties. (3) Prior to the termination or release of a PRS, the project owner shall submit the resume of the proposed new PRS to the CPM for review and approval.	CEC/BLM
PAL-2 The project owner shall provide to the PRS and the CPM, for approval, maps and drawings showing the footprint of the power plant, construction lay-down areas, and all related facilities. Maps shall identify all areas of the project where ground disturbance is anticipated. If the PRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the PRS and CPM. The site grading plan and plan and profile drawings for the utility lines would be acceptable for this purpose. The plan drawings should show the location, depth, and extent of all ground disturbances and be at a scale between 1 inch = 40 feet and 1 inch = 100 feet. If the footprint of the project or its linear facilities changes, the project owner shall provide maps and drawings reflecting those changes to the PRS and CPM. If construction of the project proceeds in phases, maps and drawings may be submitted prior to the start of each phase. A letter identifying the proposed schedule of each project phase shall be provided to the PRS and CPM. Before work commences on affected phases, the project owner shall notify the PRS and CPM of any construction phase scheduling changes. At a minimum, the project owner shall ensure that the PRS or PRM consults weekly with the project superintendent or construction field manager to confirm area(s) to be worked the following week and until ground disturbance is completed.	(1) At least 30 days prior to the start of ground disturbance, the project owner shall provide the maps and drawings to the PRS and CPM. (2) If there are changes to the footprint of the project, revised maps and drawings shall be provided to the PRS and CPM at least 15 days prior to the start of ground disturbance. (3) If there are changes to the scheduling of the construction phases, the project owner shall submit a letter to the CPM within 5 days of identifying the changes.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GEOLOGY, PALEONTOLOGY AND MINERALS (cont.)		
PAL-3 The project owner shall ensure that the PRS prepares, and the project owner submits to the CPM for review and approval, a paleontologic resources monitoring and mitigation plan (PRMMP) to identify general and specific measures to minimize potential impacts to significant paleontologic resources. Approval of the PRMMP by the CPM shall occur prior to any ground disturbance. The PRMMP shall function as the formal guide for monitoring, collecting, and sampling activities and may be modified with CPM approval. This document shall be used as the basis of discussion when on-site decisions or changes are proposed. Copies of the PRMMP shall reside with the PRS, each monitor, the project owner's on-site manager, and the CPM. The PRMMP shall be developed in accordance with the guidelines of the Society of Vertebrate Paleontology (SVP 1995) and shall include, but not be limited, to the following: 1. Assurance that the performance and sequence of project-related tasks, such as any literature searches, pre-construction surveys, worker environmental training, fieldwork, flagging or staking, construction monitoring, mapping and data recovery, fossil preparation and collection, identification and inventory, preparation of final reports, and transmittal of materials for curation will be performed according to PRMMP procedures; 2. Identification of the person(s) expected to assist with each of the tasks identified within the PRMMP and the conditions of certification; 3. A thorough discussion of the anticipated geologic units expected to be encountered, the location and depth of the units relative to the project when known, and the known sensitivity of those units based on the occurrence of fossils either in that unit or in correlative units; 4. An explanation of why, how, and how much sampling is expected to take place and in what units. Include descriptions of different sampling procedures that shall be used for fine-grained and coarse-grained units; 5. A discussion of the locations of where the monitoring of project construction activities is deemed necessary, and a proposed plan for monitoring and sampling; 6. A discussion of procedures to be followed in the event of a significant fossil discovery, halting construction, resuming construction, and how notifications will be performed; 7. A discussion of equipment and supplies necessary for collection of fossil materials and any specialized equipment needed to prepare, remove, load, transport, and analyze large-sized fossils or extensive fossil deposits; 8. Procedures for inventory, preparation, and delivery for curation into a retrievable storage collection in a public repository or museum, which meet the Society of Vertebrate Paleontology's standards and requirements for the curation of paleontologic resources; 9. Identification of the institution that has agreed to receive data and fossil materials collected, requirements or specifications for materials delivered for curation and how they will be met, and the name and phone number of the contact person at the institution; and 10. A copy of the paleontologic conditions of certification.	At least 30 days prior to ground disturbance, the project owner shall provide a copy of the PRMMP to the CPM. The PRMMP shall include an affidavit of authorship by the PRS and acceptance of the PRMMP by the project owner evidenced by a signature.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GEOLOGY, PALEONTOLOGY AND MINERALS (cont.)		
PAL-4 Prior to ground disturbance and for the duration of construction activities involving ground disturbance, the project owner and the PRS shall prepare and conduct weekly CPM-approved training for the following workers: project managers, construction supervisors, foremen, and general workers involved with or who operate ground-disturbing equipment or tools. Workers shall not excavate in sensitive units prior to receiving CPM-approved worker training. Worker training shall consist of an initial in-person PRS training or may utilize a CPM-approved video or other presentation format during the project kick off for those mentioned above. Following initial training, a CPM-approved video or other approved training presentation/materials, or in-person training may be used for new employees. The training program may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or other areas of interest or concern. No ground disturbance shall occur prior to CPM approval of the Worker Environmental Awareness Program (WEAP), unless specifically approved by the CPM. The WEAP shall address the possibility of encountering paleontologic resources in the field, the sensitivity and importance of these resources, and legal obligations to preserve and protect those resources. The training shall include: 1. A discussion of applicable laws and penalties under the law; 2. Good quality photographs or physical examples of vertebrate fossils for project sites containing units of high paleontologic sensitivity; 3. Information that the PRS or PRM has the authority to halt or redirect construction in the event of a discovery or unanticipated impact to a paleontologic resource; 4. Instruction that employees are to halt or redirect work in the vicinity of a find and to contact their supervisor and the PRS or PRM; 5. An informational brochure that identifies reporting procedures in the event of a discovery; 6. A WEAP certification of completion form signed by each worker indicating that he/she has received the training; and 7. A sticker that shall be placed on hard hats indicating that environmental training has been completed.	(1) At least 30 days prior to ground disturbance, the project owner shall submit the proposed WEAP, including the brochure, with the set of reporting procedures for workers to follow. (2) At least 30 days prior to ground disturbance, the project owner shall submit the training program presentation/materials to the CPM for approval if the project owner is planning to use a presentation format other than an in-person trainer for training. (3) If the owner requests an alternate paleontologic trainer, the resume and qualifications of the trainer shall be submitted to the CPM for review and approval prior to installation of an alternate trainer. Alternate trainers shall not conduct training prior to CPM authorization. (4) In the monthly compliance report (MCR), the project owner shall provide copies of the WEAP certification of completion forms with the names of those trained and the trainer or type of training (in-person or other approved format) offered that month. The MCR shall also include a running total of all persons who have completed the training to date.	CEC/BLM
PAL-5 The project owner shall ensure that the PRS and PRM(s) monitor consistent with the PRMMP all construction-related grading, excavation, trenching, and augering in areas where potential fossil-bearing materials have been identified, both at the site and along any constructed linear facilities associated with the project. In the event that the PRS determines full-time monitoring is not necessary in locations that were identified as potentially fossil bearing in the PRMMP, the project owner shall notify and seek the concurrence of the CPM. The project owner shall ensure that the PRS and PRM(s) have the authority to halt or redirect construction if paleontologic resources are encountered. The project owner shall ensure that there is no interference with monitoring activities unless directed by the PRS. Monitoring activities shall be conducted as follows: 1. Any change of monitoring from the accepted schedule in the PRMMP shall be proposed in a letter or email from the PRS and the project owner to the CPM prior to the change in monitoring and will be included in the monthly compliance report. The letter or email shall include the justification for the change in monitoring and be submitted to the CPM for review and approval.	The project owner shall ensure that the PRS submits the summary of monitoring and paleontologic activities in the MCR. When feasible, the CPM shall be notified 10 days in advance of any proposed changes in monitoring different from the plan identified in the PRMMP. If there is any unforeseen change in monitoring, the notice shall be given as soon as possible prior to implementation of the change.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GEOLOGY, PALEONTOLOGY AND MINERALS (cont.)		
2. The project owner shall ensure that the PRM(s) keep a daily monitoring log of paleontologic resource activities. The PRS may informally discuss paleontologic resource monitoring and mitigation activities with the CPM at any time. 3. The project owner shall ensure that the PRS notifies the CPM within 24 hours of the occurrence of any incidents of non-compliance with any paleontologic resources conditions of certification. The PRS shall recommend corrective action to resolve the issues or achieve compliance with the conditions of certification. 4. For any significant paleontologic resources encountered, either the project owner or the PRS shall notify the CPM within 24 hours, or Monday morning in the case of a weekend event, where construction has been halted because of a paleontologic find. The project owner shall ensure that the PRS prepares a summary of monitoring and other paleontologic activities placed in the monthly compliance reports. The summary will include the name(s) of PRS or PRM(s) active during the month; general descriptions of training and monitored construction activities; and general locations of excavations, grading, and other activities. A section of the report shall include the geologic units or subunits encountered, descriptions of samplings within each unit, and a list of identified fossils. A final section of the report will address any issues or concerns about the project relating to paleontologic monitoring, including any incidents of non-compliance or any changes to the monitoring plan that have been approved by the CPM. If no monitoring took place during the month, the report shall include an explanation in the summary as to why monitoring was not conducted.		
PAL-6 The project owner, through the designated PRS, shall ensure that all components of the PRMMP are adequately performed including collection of fossil materials, preparation of fossil materials for analysis, analysis of fossils, identification and inventory of fossils, the preparation of fossils for curation, and the delivery for curation of all significant paleontologic resource materials encountered and collected during project construction.	The project owner shall maintain in his/her compliance file copies of signed contracts or agreements with the designated PRS and other qualified research specialists. The project owner shall maintain these files for a period of three years after project completion and approval of the CPM-approved paleontologic resource report (see Condition of Certification **PAL-7**). The project owner shall be responsible for paying any curation fees charged by the museum for fossils collected and curated as a result of paleontologic mitigation. A copy of the letter of transmittal submitting the fossils to the curating institution shall be provided to the CPM.	CEC/BLM
PAL-7 The project owner shall ensure preparation of a Paleontologic Resources Report (PRR) by the designated PRS. The PRR shall be prepared following completion of the ground-disturbing activities. The PRR shall include an analysis of the collected fossil materials and related information and submit it to the CPM for review and approval. The report shall include, but is not limited to, a description and inventory of recovered fossil materials; a map showing the location of paleontologic resources encountered; determinations of sensitivity and significance; and a statement by the PRS that project impacts to paleontologic resources have been mitigated below the level of significance.	Within 90 days after completion of ground-disturbing activities, including landscaping, the project owner shall submit the PRR under confidential cover to the CPM.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
HAZARDOUS MATERIALS OF CERTIFICATION/MITIGATION MEASURES		
HAZ-1 The project owner shall not use any hazardous materials not listed in Appendix A, below, or in greater quantities or strengths than those identified by chemical name in Appendix A, below, unless approved in advance by the Compliance Project Manager (CPM).	The project owner shall provide to the CPM, in the Annual Compliance Report, a list of hazardous materials contained at the facility.	CEC/BLM
HAZ-2 The project owner shall concurrently provide a Hazardous Materials Business Plan (HMBP), a Spill Prevention, Control, and Countermeasure Plan (SPCC), and a Process Safety Management Plan (PSMP) to the Riverside County Environmental Health Department (RCEHD), the Riverside County Fire Department (RCFD), and the CPM for review. After receiving comments from the RCEHD, the RCFD, and the CPM, the project owner shall reflect all recommendations in the final documents. Copies of the final HMBP shall then be provided to the RCEHD for information and to the CPM for approval.	At least 60 days prior to receiving any hazardous material on the site for commissioning or operations, the project owner shall provide a copy of a final Hazardous Materials Business Plan, a Spill Prevention, Control, and Countermeasure Plan, and a Process Safety Management Plan to the CPM for approval.	CEC/BLM
HAZ-3 The project owner shall develop and implement a Safety Management Plan for the delivery and handling of liquid hazardous materials. The plan shall include procedures, protective equipment requirements, training and a checklist. It shall also include a section describing all measures to be implemented to prevent mixing of incompatible hazardous materials. This plan shall be applicable during construction, commissioning, and operation of the power plant.	At least 60 days prior to the delivery of any liquid hazardous material to the facility, the project owner shall provide a Safety Management Plan as described above to the CPM for review and approval.	CEC/BLM
HAZ-4 The project owner shall place an adequate number of isolation valves in the Heat Transfer Fluid (HTF) pipe system for section and loop isolation in the event of a fluid leak such that the volume of a total loss of HTF from that isolated pipe system or loop will not exceed 1,250 gallons. These valves shall be actuated manually, remotely, or automatically. The engineering design drawings showing the number, location, and type of isolation valves shall be provided to the CPM for review and approval prior to the commencement of the solar array piping construction.	At least 30 days prior to the commencement of solar array piping construction, the project owner shall provide the design drawings as described above to the CPM for review and approval.	CEC/BLM
HAZ-5 Prior to commencing construction, a site-specific Construction Site Security Plan for the construction phase shall be prepared and made available to the CPM for review and approval. The Construction Security Plan shall include the following: 1. perimeter security consisting of fencing enclosing the construction area; 2. security guards; 3. site access control consisting of a check-in procedure or tag system for construction personnel and visitors; 4. written standard procedures for employees, contractors and vendors when encountering suspicious objects or packages on site or off site; 5. protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency; and 6. evacuation procedures.	At least 30 days prior to commencing construction, the project owner shall notify the CPM that a site-specific Construction Security Plan is available for review and approval.	CEC/BLM
HAZ-6 The project owner shall also prepare a site-specific security plan for the commissioning and operational phases that will be available to the CPM for review and approval. The project owner shall implement site security measures that address physical site security and hazardous materials storage. The level of security to be implemented shall not be less than that described below (as per NERC 2002).	At least 30 days prior to the initial receipt of hazardous materials on site, the project owner shall notify the CPM that a site-specific operations site security plan is available for review and approval. In the annual	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
HAZARDOUS MATERIALS OF CERTIFICATION/MITIGATION MEASURES (cont.)		
The Operation Security Plan shall include the following: 1. Permanent full perimeter fence or wall, at least eight feet high around the Power Block and Solar Field; 2. Main entrance security gate, either hand operated or motorized; 3. Evacuation procedures; 4. Protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency; 5. Written standard procedures for employees, contractors, and vendors when encountering suspicious objects or packages on site or off site; 6. A. a statement (refer to sample, **ATTACHMENT A**), signed by the project owner certifying that background investigations have been conducted on all project personnel. Background investigations shall be restricted to determine the accuracy of employee identity and employment history and shall be conducted in accordance with state and federal laws regarding security and privacy; B. a statement(s) (refer to sample, **ATTACHMENT B**), signed by the contractor or authorized representative(s) for any permanent contractors or other technical contractors (as determined by the CPM after consultation with the project owner), that are present at any time on the site to repair, maintain, investigate, or conduct any other technical duties involving critical components (as determined by the CPM after consultation with the project owner) certifying that background investigations have been conducted on contractors who visit the project site; 7. Site access controls for employees, contractors, vendors, and visitors; 8. A statement(s) (refer to sample, ATTACHMENT C), signed by the owners or authorized representative of hazardous materials transport vendors, certifying that they have prepared and implemented security plans in compliance with 49 CFR 172.802, and that they have conducted employee background investigations in accordance with 49 CFR Part 1572, subparts A and B; 9. Closed circuit TV (CCTV) monitoring system, recordable, and viewable in the power plant control room and security station (if separate from the control room) with cameras able to pan, tilt, and zoom, have low-light capability, and are able to view the outside entrance to the control room, and the front gate; and 10. Additional measures to ensure adequate perimeter security consisting of either: A. security guard(s) present 24 hours per day, 7 days per week; or B. power plant personnel on site 24 hours per day, 7 days per week, and one of the following: perimeter breach detectors **or** CCTV able to view both site entrance gates and 100% of the power block area perimeter. The project owner shall fully implement the security plans and obtain CPM approval of any substantive modifications to those security plans. The CPM may authorize modifications to these measures, or may require additional measures such as	compliance report, the project owner shall include a statement that all current project employee and appropriate contractor background investigations have been performed, and that updated certification statements have been appended to the operations security plan. In the annual compliance report, the project owner shall include a statement that the operations security plan includes all current hazardous materials transport vendor certifications for security plans and employee background investigations.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
HAZARDOUS MATERIALS OF CERTIFICATION/MITIGATION MEASURES (cont.)		
protective barriers for critical power plant components depending upon circumstances unique to the facility or in response to industry-related standards, security concerns, cyber security, or additional guidance provided by the U.S. Department of Homeland Security, the U.S. Department of Energy, or the North American Electrical Reliability Corporation, after consultation with both appropriate law enforcement agencies and the applicant.		CEC/BLM
WASTE MANAGEMENT		
WASTE-1 The project owner shall prepare a UXO Identification, Training and Reporting Plan to properly train all site workers in the recognition, avoidance and reporting of military waste debris and ordnance. The project owner shall submit the plan to the CPM for review and approval prior to the start of construction. The plan shall contain, at a minimum, the following: A description of the training program outline and materials, and the qualifications of the trainers; and Identification of available trained experts that will respond to notification of discovery of any ordnance (unexploded or not); and Work plan to recover and remove discovered ordnance, and complete additional field screening, possibly including geophysical surveys to investigate adjacent areas for surface, near surface or buried ordnance in all proposed land disturbance areas. The project owner shall provide documentation of the plan and provide survey results to the CPM.	The project owner shall submit the UXO Identification, Training and Reporting Plan to the CPM for approval no less than 30 days prior to the initiation of construction activities at the site. The results of geophysical surveys shall be submitted to the CPM within 30 days of completion of the surveys.	CEC/BLM
WASTE-2 The project owner shall provide the résumé of an experienced and qualified Professional Engineer or Professional Geologist to the CPM for review and approval. The résumé shall show experience in remedial investigation and feasibility studies. This Professional Engineer or Professional Geologist shall be available during site characterization (if needed), excavation, grading, and demolition activities. The Professional Engineer or Professional Geologist shall be given authority by the project owner to oversee any earth-moving activities that have the potential to disturb contaminated soil and impact public health, safety, and the environment.	At least 30 days prior to the start of site mobilization the project owner shall submit the resume to the CPM for review and approval.	CEC/BLM
WASTE-3 If potentially contaminated soil is identified during site characterization, excavation, grading, or demolition at either the proposed site or linear facilities—as evidenced by discoloration, odor, detection by handheld instruments, or other signs—the Professional Engineer or Professional Geologist shall inspect the site; determine the need for sampling to confirm the nature and extent of contamination; and provide a written report to the project owner, representatives of Department of Toxic Substances Control (DTSC) or Regional Water Quality Control Board (RWQCB), the Compliance Project Manager (CPM) stating the recommended course of action. Depending on the nature and extent of contamination, the Professional Engineer or Professional Geologist shall have the authority to temporarily suspend construction activity at that location for the protection of workers or the public. If in the opinion of the Professional Engineer or Professional Geologist significant remediation may be required, the project owner shall contact the CPM, and representatives of the DTSC or RWQCB for guidance and possible oversight.	The project owner shall submit any reports filed by the Professional Engineer or Professional Geologist to the CPM and AO within 5 days of their receipt. The project owner shall notify the CPM within 24 hours of any orders issued to halt construction.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
WASTE MANAGEMENT (cont.)		
WASTE-4 The project owner shall submit a Construction Waste Management Plan to the CPM for review and approval prior to the start of construction. The plan shall contain, at a minimum, the following: a description of all construction waste streams, including projections of frequency, amounts generated and hazard classifications; a survey of structures to be demolished that identifies the types of waste to be managed; and management methods to be used for each waste stream, including temporary on-site storage, housekeeping and best management practices to be employed, treatment methods, and companies providing treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/reduction plans.	The project owner shall submit the Construction Waste Management Plan to the CPM for approval no less than 30 days prior to the initiation of construction activities at the site.	CEC/BLM
WASTE-5 The project owner shall obtain a hazardous waste generator identification number from the United States Environmental Protection Agency (USEPA) prior to generating any hazardous waste during project construction and operations.	The project owner shall keep a copy of the identification number on file at the project site and provide documentation of the hazardous waste generation and notification and receipt of the number to the CPM in the next scheduled Monthly Compliance Report after receipt of the number. Submittal of the notification and issued number documentation to the CPM is only needed once unless there is a change in ownership, operation, waste generation, or waste characteristics that requires a new notification to USEPA. Documentation of any new or revised hazardous waste generation notifications or changes in identification number shall be provided to the CPM in the next scheduled compliance report.	CEC/BLM
WASTE-6 Upon notification of any impending waste management-related enforcement action related to project site activities by any local, state, or federal authority, the project owner shall notify the CPM of any such action taken or proposed against the project itself, or against any waste hauler or disposal facility or treatment operator with which the owner contracts for the project, and describe the owner's response to the impending action or if a violation has been found, how the violation will be corrected.	The project owner shall notify the CPM in writing within 10 days of receiving written notice from authorities of an impending enforcement action. The CPM shall notify the project owner of any changes that will be required in the way project-related wastes are managed as a result of a finalized action against the project.	CEC/BLM
WASTE-7 The project owner shall submit the Operation Waste Management Plan to the CPM for review and approval. The plan shall contain, at a minimum, the following: a detailed description of all operation and maintenance waste streams, including projections of amounts to be generated, frequency of generation, and waste hazard classifications; management methods to be used for each waste stream, including temporary on-site storage, housekeeping and best management practices to be employed, treatment methods and companies providing treatment services, waste testing	The project owner shall submit the Operation Waste Management Plan to the CPM and AO for approval no fewer than 30 days prior to the start of project operation. The project owner shall submit any required revisions to the CPM within 20 days of notification from the CPM that revisions are necessary.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
WASTE MANAGEMENT (cont.)		
methods to ensure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans; information and summary records of conversations with the local Certified Unified Program Agency and the Department of Toxic Substances Control regarding any waste management requirements necessary for project activities. Copies of all required waste management permits, notices, and/or authorizations shall be included in the plan and updated as necessary; a detailed description of how facility wastes will be managed and any contingency plans to be employed, in the event of an unplanned closure or planned temporary facility closure; and a detailed description of how facility wastes will be managed and disposed upon closure of the facility.	The project owner shall also document in each Annual Compliance Report the actual volume of wastes generated and the waste management methods used during the year, provide a comparison of the actual waste generation and management methods used to those proposed in the original Operation Waste Management Plan, and update the Operation Waste Management Plan as necessary to address current waste generation and management practices.	
WASTE-8 The project owner shall submit to the CPM and DTSC for approval an assessment of whether the HTF contaminated soil is considered hazardous or non-hazardous under state regulations. HTF-contaminated soil that exceeds the hazardous waste levels must be disposed of in accordance with California Health and Safety Code (HSC) Section 25203. HTF-contaminated soil that does not exceed the hazardous waste levels may be discharged into the land treatment unit (LTU). For discharges into the LTU, the project owner shall comply with the Waste Discharge Requirements contained in the Soil & Water Resources section of this document. The project owner shall document all releases and spills of HTF as described in Condition of Certification WASTE-9 and report only those that are 42 gallons or more, the CERCLA reportable quantity, as required in the Soil & Water Resources section of this document. Cleanup and temporary staging of HTF-contaminated soils shall be conducted in accordance with the approved Operation Waste Management Plan required in Condition of Certification of WASTE-8. The project owner shall sample HTF-contaminated soil from CERCLA reportable incidents involving 42 gallons or more in accordance with the United States Environmental Protection Agency's (USEPA) current version of "Test Methods for Evaluating Solid Waste" (SW-846). Samples shall be analyzed in accordance with USEPA Method 8015 or other method to be reviewed and approved by DTSC, the CPM. If DTSC and the CPM and AO determine the HTF-contaminated soil is considered hazardous it shall be disposed of in accordance with California Health and Safety Code (HSC) Section 25203 and procedures outlined in the approved Operation Waste Management Plan required in Condition of Certification WASTE-7 and reported to the CPM in accordance with Condition of Certification WASTE-9. If DTSC and the CPM determine the HTF-contaminated soil is considered non-hazardous it shall be retained in the LTU and treated on-site in accordance with the Waste Discharge Requirements contained within in the Soil & Water Resources section of this document.	Within 28 days of an HTF spill of 42 gallons or more the project owner shall provide the results of the analyses and their assessment of whether the HTF-contaminated soil is considered hazardous or non-hazardous to DTSC and the CPM for review and approval.	CEC/BLM
WASTE-9 The project owner shall ensure that all accidental spills or unauthorized releases of hazardous substances, hazardous materials, and hazardous waste are documented and remediated, and that wastes generated from accidental spills and unauthorized releases are properly managed and disposed of in accordance with all applicable federal, state, and local requirements. For the purpose of this Condition of Certification, "release" shall have the definition in Title 40 of the Code of Federal Regulations, Part 302.3. The project owner shall document management of all accidental spills and unauthorized releases of	A copy of the accidental spill or unauthorized release documentation shall be provided to the CPM within 30 days of the date the release was discovered.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
WASTE MANAGEMENT (cont.)		
hazardous substances, hazardous materials, and hazardous wastes that occur on the project property or related linear facilities. The documentation shall include, at a minimum, the following information: location of release; date and time of release; reason for release; volume released; how release was managed and material cleaned up; amount of contaminated soil and/or cleanup wastes generated; if the release was reported; to whom the release was reported; release corrective action and cleanup requirements placed by regulating agencies; level of cleanup achieved and actions taken to prevent a similar release or spill; and disposition of any hazardous wastes and/or contaminated soils and materials that may have been generated by the release.		
WASTE-10 The project owner shall ensure that all non-hazardous, non-recyclable, and non-reusable construction and operation waste is not diverted to Desert Center Landfill or Oasis Sanitary Landfill.	The project owner shall document all project-related solid waste disposal actions to the Compliance Project Manager annually.	CEC/BLM
TRANSMISSION LINE SAFETY AND NUISANCE		
TLSN-1 The project owner shall construct the proposed transmission line according to the requirements of California Public Utility Commission's GO-95, GO-52, GO-131-D, Title 8, and Group 2. High Voltage Electrical Safety Orders, sections 2700 through 2974 of the California Code of Regulations, and Southern California Edison's Electric's EMF reduction guidelines. The Project will follow Southern California Edison's EMF resign guideline for the design and construction of the 230kV interconnection line except where it conflicts with Federal Aviation Agency (FAA) and/or the Riverside County Airport Land Use Commission (RCALUC) rules and regulations.	At least 30 days before starting construction of the transmission line or related structures and facilities, the project owner shall submit to the Compliance Project Manager (CPM) a letter signed by a California registered electrical engineer affirming that the lines will be constructed according to the requirements stated in the condition.	CEC/BLM
TLSN-2 The project owner shall ensure that every reasonable effort will be made to identify and correct, on a case-specific basis, any complaints of interference with radio or television signals from operation of the project-related line and associated switchyards.	All reports of line-related complaints shall be summarized for the project-related lines and included during the first five years of plant operation in the Annual Compliance Report.	CEC/BLM
TLSN-3 The project owner shall use a qualified individual to measure the strengths of the electric and magnetic fields from the line at the points of maximum intensity along the route for which the applicant provided specific estimates. The measurements shall be made before and after energization according to the American National Standard Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) standard procedures. These measurements shall be completed no later than 6 months after the start of operations.	The project owner shall file copies of the pre-and post-energization measurements with the CPM within 60 days after completion of the measurements.	CEC/BLM
TLSN-4 The project owner shall ensure that the rights-of-way of the proposed transmission line are kept free of combustible material, as required under the provisions of section 4292 of the Public Resources Code and section 1250 of Title 14 of the California Code of Regulations.	During the first 5 years of plant operation, the project owner shall provide a summary of inspection results and any fire prevention activities carried out along the right-of-way and provide such summaries in the Annual Compliance Report	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRANSMISSION LINE SAFETY AND NUISANCE (cont.)		
TLSN-5 The project owner shall ensure that all permanent metallic objects within the right-of-way of the project-related lines are grounded according to industry standards regardless of ownership.	At least 30 days before the lines are energized, the project owner shall transmit to the CPM a letter confirming compliance with this condition.	CEC/BLM
WORKER SAFETY AND FIRE PROTECTION		
WORKER SAFETY-1 The project owner shall submit to the Compliance Project Manager (CPM) a copy of the Project Construction Safety and Health Program containing the following: A Construction Personal Protective Equipment Program; A Construction Exposure Monitoring Program; A Construction Injury and Illness Prevention Program; A Construction heat stress protection plan that implements and expands on existing Cal OSHA regulations as found in 8 CCR 3395; A Construction Emergency Action Plan; and A Construction Fire Prevention Plan that includes the concrete batch plant and the above-ground fuel depot. The Personal Protective Equipment Program, the Exposure Monitoring Program, the Injury and Illness Prevention Program, and the Heat Stress Protection Plan shall be submitted to the CPM for review and approval concerning compliance of the program with all applicable safety orders. The Construction Emergency Action Plan and the Fire Prevention Plan shall be submitted to the Riverside County Fire Department for review and comment prior to submittal to the CPM for approval.	At least 30 days prior to the start of construction, the project owner shall submit to the CPM for review and approval a copy of the Project Construction Safety and Health Program.	CEC/BLM
WORKER SAFETY-2 The project owner shall submit to the CPM a copy of the Project Operations and Maintenance Safety and Health Program containing the following: An Operation Injury and Illness Prevention Plan; An Operation heat stress protection plan that implements and expands on existing Cal OSHA regulations (8 CCR 3395); A Best Management Practices (BMP) for the storage and application of herbicides; An Emergency Action Plan; Hazardous Materials Management Program; Fire Prevention Plan that includes the fuel depot should the project owner elect to maintain and operate the fuel depot during operations (8 Cal Code Regs. § 3221); and Personal Protective Equipment Program (8 Cal Code Regs, §§ 3401-3411).	At least 30 days prior to the start of first-fire or commissioning, the project owner shall submit to the CPM for approval a copy of the Project Operations and Maintenance Safety and Health Program.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
WORKER SAFETY AND FIRE PROTECTION (cont.)		
The Operation Injury and Illness Prevention Plan, Emergency Action Plan, Heat Stress Protection Plan, BMP for Herbicides, and Personal Protective Equipment, and Personal Protective Equipment Program shall be submitted to the CPM for review and comment concerning compliance of the programs with all applicable safety orders. The Fire Prevention Plan and the Emergency Action Plan shall also be submitted to the Riverside County Fire Department for review and comment.		CEC/BLM
WORKER SAFETY-3 The project owner shall provide a site Construction Safety Supervisor (CSS) who, by way of training and/or experience, is knowledgeable of power plant construction activities and relevant laws, ordinances, regulations, and standards; is capable of identifying workplace hazards relating to the construction activities; and has authority to take appropriate action to assure compliance and mitigate hazards. The CSS shall: Have overall authority for coordination and implementation of all occupational safety and health practices, policies, and programs; Assure that the safety program for the project complies with Cal/OSHA and federal regulations related to power plant projects; Assure that all construction and commissioning workers and supervisors receive adequate safety training; Complete accident and safety-related incident investigations and emergency response reports for injuries and inform the CPM of safety-related incidents; and Assure that all the plans identified in Conditions of Certification Worker Safety-1 and -2 are implemented. The CSS shall submit in the Monthly Compliance Report a monthly safety inspection report to include: Record of all employees trained for that month (all records shall be kept on site for the duration of the project); Summary report of safety management actions and safety-related incidents that occurred during the month; Report of any continuing or unresolved situations and incidents that may pose danger to life or health; and Report of accidents and injuries that occurred during the month.	At least 60 days prior to the start of site mobilization, the project owner shall submit to the CPM the name and contact information for the Construction Safety Supervisor (CSS). The contact information of any replacement CSS shall be submitted to the CPM within one business day.	CEC/BLM
WORKER SAFETY-4 The project owner shall make payments to the Chief Building Official (CBO) for the services of a Safety Monitor based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. Those services shall be in addition to other work performed by the CBO. The Safety Monitor shall be selected by and report directly to the CBO and will be responsible for verifying that the Construction Safety Supervisor, as required in Condition of Certification Worker Safety-3, implements all appropriate Cal/OSHA and Energy Commission safety requirements. The Safety Monitor shall conduct on-site (including linear facilities) safety inspections at intervals necessary to fulfill those responsibilities.	At least 60 days prior to the start of construction, the project owner shall provide proof of its agreement to fund the Safety Monitor services to the CPM for review and approval.	CEC/BLM
WORKER SAFETY-5 The project owner shall ensure that a portable automatic external defibrillator (AED) is located on site during construction and operations and shall implement a program to ensure that workers are properly trained in its use and that the equipment is properly maintained and functioning at all times. During construction and commissioning, the following persons shall be trained in its use and shall be on site whenever the workers that they supervise are on site: the Construction Project Manager or delegate, the Construction Safety Supervisor or delegate, and all shift foremen. During operations, all	At least 60 days prior to the start of site mobilization, the project owner shall submit to the CPM proof that a portable automatic external defibrillator (AED) exists on site and a copy of the training and maintenance program for review and approval.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
WORKER SAFETY AND FIRE PROTECTION (cont.)		
power plant employees shall be trained in its use. The training program shall be submitted to the CPM for review and approval.		
WORKER SAFETY-6 The project owner shall: A. Provide a second access gate for emergency personnel to enter the site. This secondary access gate shall be at least one-quarter mile from the main gate. B. Provide a second access road that comes to the site. This road shall be at a minimum an all-weather gravel road and at least 20 feet wide. C. Maintain the main access road and the second road and provide a plan for implementation. Plans for the secondary access gate, the method of gate operation, gravel road, and to maintain the roads shall be submitted to the Riverside County Fire Department for review and comment and to the CPM for review and approval.	At least sixty (60) days prior to the start of site mobilization, the project owner shall submit to the Riverside County Fire Department and the CPM preliminary plans showing the location of a second access gate to the site, a description of how the gate will be opened by the fire department, and a description and map showing the location, dimensions, and composition of the main road, and the gravel road to the second gate. At least thirty (30) days prior to the start of site mobilization, the project owner shall submit final plans plus the road maintenance plan to the CPM review and approval. The final plan submittal shall also include a letter containing comments from the Riverside County Fire Department or a statement that no comments were received.	CEC/BLM
WORKER SAFETY-7 The project owner shall either: (1) Reach an agreement, either individually or in conjunction with a power generation industry association or group that negotiates on behalf of its members, with the Riverside County Fire Department (RCFD) regarding funding of its project-related share of capital and operating costs to build and operate new fire protection/response infrastructure and provide appropriate equipment as mitigation of project-related impacts on fire protection services within the jurisdiction; **or** (2) Shall fund its share of the capital costs in the amount of $850,000 and provide an annual payment of $375,000 to the RCFD for the support of new fire department staff and operations and maintenance commencing with the start of construction and continuing annually thereafter on the anniversary until the final date of power plant decommissioning.	At least thirty (30) days prior to the start of site mobilization, the project owner shall provide to the CPM: (1) A copy of the individual agreement with the RCFD or, if the owner joins a power generation industry association, a copy of the bylaws and group's agreement/contract with the RCFD; **or** (2) Documentation that the amount of $850,000 has been paid to the RCFD, documentation that the first annual payment of $375,000 has been made, and shall also provide evidence in each January Monthly Compliance Report during construction and the Annual Compliance Report during operation that subsequent annual payments have been made.	CEC/BLM
WORKER SAFETY-8 The project owner shall develop and implement an enhanced Dust Control Plan that includes the requirements described in AQ-SC3 and additionally requires: i. Site worker use of dust masks (NIOSH N-95 or better) whenever visible dust is present;	At least 60 days prior to the commencement of site mobilization, the enhanced Dust control Plan shall be provided to the CPM for review and approval.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
WORKER SAFETY AND FIRE PROTECTION (cont.)		
ii. Implementation of methods equivalent to Rule 402 of the Kern County Air Pollution Control District (as amended Nov. 3, 2004); and iii. Implementation of enhanced dust control methods (increased frequency of watering, use of dust suppression chemicals, etc. consistent with AQ-SC4) immediately whenever visible dust persists in the breathing zone of the workers, or when PM10 measurements obtained when implementing ii (above) indicate an increase in PM10 concentrations due to Project activities of 50 µg/m3 or more.		
WORKER SAFETY-9 The project owner shall participate in annual joint training exercises with the Riverside County Fire Department (RCFD). The project owner shall coordinate this training with other Energy Commission-licensed solar power plants within Riverside County such that this project shall host the annual training on a rotating yearly basis with the other solar power plants.	At least 10 days prior to the start of commissioning, the project owner shall submit to the CPM proof that a joint training program with the RCFD is established. In each January Monthly Compliance Report during construction and the Annual Compliance Report during operation, the project owner shall include the date, list of participants, training protocol, and location of the annual joint training.	CEC/BLM
HEALTH AND SAFETY		
Public Health-1 The Project owner shall develop and implement a Cooling Water Management Plan to ensure that the potential for bacterial growth in all four wet cooling towers is kept to a minimum. The Plan shall be consistent with either staff's "Cooling Water Management Program Guidelines" or with the Cooling Technology Institute's "Best Practices for Control of Legionella" guidelines but in either case, the Plan must include sampling and testing for the presence of Legionella bacteria at least every six months. After two years of power plant operations, the Project owner may ask the CPM to re-evaluate and revise the Legionella bacteria testing requirement.	At least 60 days prior to the commencement of cooling tower operations, the Cooling Water Management Plan shall be provided to the CPM for review and approval.	CEC/BLM
TRANSMISSION SYSTEM ENGINEERING		
TSE-1 The project owner shall provide the Compliance Project Manager (CPM) and the Chief Building Official (CBO) with a schedule of transmission facility design submittals, a master drawing list, a master specifications list, and a major equipment and structure list. The schedule shall contain both a description and a list of proposed submittal packages for design, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide designated packages to the CPM when requested.	Prior to the start of construction of transmission facilities, the project owner shall submit the schedule, a master drawing list, and a master specifications list to both the CBO and the CPM. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment (see a list of major equipment in **Table 1: Major Equipment List** below). Additions and deletions shall be made to the table only with both CPM and CBO approval. The project owner shall provide schedule updates in the monthly compliance report.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRANSMISSION SYSTEM ENGINEERING (cont.)		
TSE-2 Before the start of construction, the project owner shall assign to the project an electrical engineer and at least one of each of the following: a) a civil engineer; b) a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering; c) a design engineer who is either a structural engineer or a civil engineer and fully competent and proficient in the design of power plant structures and equipment supports; or d) a mechanical engineer (Business and Professions Code Sections 6704 et seq. require state registration to practice as either a civil engineer or a structural engineer in California). The tasks performed by the civil, mechanical, electrical, or design engineers may be divided between two or more engineers as long as each engineer is responsible for a particular segment of the project, e.g., proposed earthwork, civil structures, power plant structures, or equipment support. No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer. The civil, geotechnical, or civil and design engineer, assigned as required by Facility Design Condition **GEN-5**, may be responsible for design and review of the TSE facilities. The project owner shall submit to the CBO, for review and approval, the names, qualifications, and registration numbers of all engineers assigned to the project. If any one of the designated engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer. This engineer shall be authorized to halt earth work and require changes if site conditions are unsafe or do not conform with the predicted conditions used as the basis for design of earth work or foundations. The electrical engineer shall: 1. be responsible for the electrical design of the power plant switchyard, outlet, and termination facilities; and 2. sign and stamp electrical design drawings, plans, specifications, and calculations.	Prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the names, qualifications, and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the engineers within five days of the approval. If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.	
TSE-3 If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend corrective action (2001 California Building Code, Chapter 1, section 108.4, approval required; Chapter 17, section 1701.3, Duties and Responsibilities of the Special Inspector; Appendix Chapter 33, section 3317.7, Notification of Noncompliance). The discrepancy documentation shall become a controlled document and shall be submitted to the CBO for review and approval and refer to this condition of certification.	The project owner shall submit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a discrepancy to the CPM within 15 days of receipt. If disapproved, the project owner shall advise the CPM, within five days, the reason for the disapproval, along with the revised corrective action required to obtain the CBO's approval.	
TSE-4 For the power plant switchyard, outlet line and termination, the project owner shall not begin any construction until plans for that increment of construction have been approved by the CBO. These plans, together with design changes and design change notices, shall remain on the site for one year after completion of construction. The project owner shall request	Prior to the start of each increment of construction, the project owner shall submit to the CBO for review and approval the final design plans, specifications and	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRANSMISSION SYSTEM ENGINEERING (cont.)		
that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS. The following activities shall be reported in the monthly compliance report: a) receipt or delay of major electrical equipment; b) testing or energization of major electrical equipment; and c) the number of electrical drawings approved, submitted for approval, and still to be submitted.	calculations for equipment and systems of the power plant switchyard, and outlet line and termination, including a copy of the signed and stamped statement from the responsible electrical engineer verifying compliance with all applicable LORS, and send the CPM a copy of the transmittal letter in the next monthly compliance report.	
TSE-5 The project owner shall ensure that the design, construction, and operation of the proposed transmission facilities will conform to all applicable LORS, and the requirements listed below. The project owner shall submit the required number of copies of the design drawings and calculations, as determined by the CBO. a) The power plant outlet line shall meet or exceed the electrical, mechanical, civil, and structural requirements of CPUC General Order 95 or National Electric Safety Code (NESC); Title 8 of the California Code and Regulations (Title 8); Articles 35, 36 and 37 of the High Voltage Electric Safety Orders, California ISO standards, National Electric Code (NEC) and related industry standards. b) Breakers and busses in the power plant switchyard and other switchyards, where applicable, shall be sized to comply with a short-circuit analysis. c) Outlet line crossings and line parallels with transmission and distribution facilities shall be coordinated with the transmission line owner and comply with the owner's standards. d) The project conductors shall be sized to accommodate the full output of the project. e) Termination facilities shall comply with applicable SCE interconnection standards. f) The project owner shall provide to the CPM: i) The Special Protection System (SPS) sequencing and timing if applicable, ii) A letter stating that the mitigation measures or projects selected by the transmission owners for each reliability criteria violation, for which the project is responsible, are acceptable, iii) The final Phase II Interconnection Study, including a description of facility upgrades, operational mitigation measures, and/or special protection system sequencing and timing if applicable; and iv) A copy of the executed LGIA signed by the California ISO and the project owner.	Prior to the start of construction of transmission facilities, the project owner shall submit to the CBO for approval: a) Design drawings, specifications, and calculations conforming with CPUC General Order 95 or National Electric Safety Code (NESC); Title 8 of the California Code and Regulations (Title 8); Articles 35, 36 and 37 of the High Voltage Electric Safety Orders, CA ISO standards, National Electric Code (NEC) and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, grounding systems, and major switchyard equipment; b) For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions"[1] and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or National Electric Safety Code (NESC); Title 8 of the California Code and Regulations (Title 8); Articles 35, 36 and 37 of the High Voltage Electric Safety Orders, California ISO standards, National Electric Code (NEC), and related industry standards; c) Electrical one-line diagrams signed and sealed by the registered professional electrical engineer in charge, a route map, and an engineering	

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[1] Worst-case conditions for the foundations would include for instance, a dead-end or angle pole.

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRANSMISSION SYSTEM ENGINEERING (cont.)		
	description of the equipment and configurations covered by requirements TSE-5 a) through f), above; d) The Special Protection System (SPS) sequencing and timing if applicable shall be provided concurrently to the CPM. e) A letter stating that the mitigation measures or projects selected by the transmission owners for each reliability criteria violation, for which the project is responsible, are acceptable, f) The final Phase II Interconnection Study, including a description of facility upgrades, operational mitigation measures, and/or special protection system sequencing and timing if applicable, and g) A copy of the executed LGIA signed by the California ISO and the project owner.	
TSE-6 The project owner shall provide the following Notice to the California Independent System Operator (California ISO) prior to synchronizing the facility with the California Transmission system: 1. At least one week prior to synchronizing the facility with the grid for testing, provide the California ISO a letter stating the proposed date of synchronization; and 2. At least one business day prior to synchronizing the facility with the grid for testing, provide telephone notification to the California ISO Outage Coordination Department.	The project owner shall provide copies of the California ISO letter to the CPM when it is sent to the California ISO one week prior to initial synchronization with the grid. The project owner shall contact the California ISO Outage Coordination Department, Monday through Friday, between the hours of 0700 and 1530 at (916) 351-2300 at least one business day prior to synchronizing the facility with the grid for testing. A report of conversation with the California ISO shall be provided electronically to the CPM one day before synchronizing the facility with the California transmission system for the first time.	
TSE-7 The project owner shall be responsible for the inspection of the transmission facilities during and after project construction, and any subsequent CPM and CBO approved changes thereto, to ensure conformance with CPUC GO-95 or NESC, Title 8, CCR, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", applicable interconnection standards, NEC and related industry standards. In case of non-conformance, the project owner shall inform the CPM and CBO in writing, within 10 days of discovering such non-conformance and describe the corrective actions to be taken.	Within 60 days after first synchronization of the project, the project owner shall transmit to the CPM and CBO: a) "As built" engineering description(s) and one-line drawings of the electrical portion of the facilities signed and sealed by the registered electrical engineer in responsible charge. A statement attesting to conformance with CPUC GO-95 or NESC, Title 8, California Code of Regulations,	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRANSMISSION SYSTEM ENGINEERING (cont.)		
	Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", and applicable interconnection standards, NEC, related industry standards. b) An "as built" engineering description of the mechanical, structural, and civil portion of the transmission facilities signed and sealed by the registered engineer in responsible charge or acceptable alternative verification. "As built" drawings of the electrical, mechanical, structural, and civil portion of the transmission facilities shall be maintained at the power plant and made available, if requested, for CPM audit as set forth in the "Compliance Monitoring Plan". A summary of inspections of the completed transmission facilities, and identification of any nonconforming work and corrective actions taken, signed and sealed by the registered engineer in charge.	
SOIL AND WATER RESOURCES		
SOIL&WATER-1 Prior to site mobilization, the project owner shall obtain the Compliance Project Manager (CPM) approval of the Drainage Erosion and Sedimentation Control Plan (DESCP) for managing stormwater during Project construction and operations as normally administered by the County of Riverside. The DESCP must ensure proper protection of water quality and soil resources, demonstrate no increase in off-site flooding potential, include provisions for sediment and stormwater retention from both the power block, solar fields and transmission right of way to meet any Riverside County requirements, address exposed soil treatments in the solar fields for both road and non-road surfaces, and identify all monitoring and maintenance activities. The DESCP shall contain, at minimum, the elements presented below that outline site management activities and erosion and sediment-control Best Management Practices (BMP) to be implemented during site mobilization, excavation, construction, and post construction (operating) activities. A. **Vicinity Map** – A map(s), at a minimum scale 1 inch to 500 feet, shall be provided indicating the location of all Project elements (construction sites, laydown area, pipelines) with depictions of all significant geographic features including swales, storm drains, and sensitive areas. B. **Site Delineation** – All areas subject to soil disturbance for the proposed Project (Project phases, laydown area, all linear facilities, landscaping areas, and any other Project elements) shall be delineated showing boundary lines of all construction areas and the location of all existing and proposed structures, pipelines, roads, and drainage facilities.	No later than thirty (30) days prior to start of site mobilization, the project owner shall submit a copy of the final DESCP to the CPM for review and comment and to the County of Riverside and the CRBWQCB if required. The CPM shall consider comments if received by the county and CRBRWQCB before approval of the DESCP. The DESCP shall be consistent with the grading and drainage plan as required by Condition of Certification **CIVIL-1**, and relevant portions of the DESCP shall clearly show approval by the chief building official. The DESCP shall be a separate plan from the SWPPP developed in conjunction with any National Pollution Discharge Elimination System (NPDES) permit for Construction Activity. The project owner shall provide in the monthly compliance report with a narrative on	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
C. **Watercourses and Critical Areas** – The DESCP shall show the location of all nearby watercourses including swales, storm drains, and drainage ditches. It shall indicate the proximity of those features to the proposed Project construction, laydown, and landscape areas and all transmission and pipeline construction corridors. D. **Drainage Map** – The DESCP shall provide a topographic site map(s), at a minimum scale of 1 inch to 200 feet, showing existing, interim, and proposed drainage swales and drainage systems and drainage-area boundaries. On the map, spot elevations are required where relatively flat conditions exist. The spot elevations and contours shall be extended off site for a minimum distance of 100 feet. E. **Drainage of Project Site Narrative** – The DESCP shall include a narrative of the drainage measures necessary to protect the site and potentially affected soil and water resources within the drainage downstream of the site. The narrative shall include the summary pages from the hydraulic analysis prepared by a professional engineer and erosion control specialist. The narrative shall state the watershed size(s) in acres that was used in the calculation of drainage features. F. **Clearing and Grading Plans** – The DESCP shall provide a delineation of all areas to be cleared of vegetation and areas to be preserved. The plan shall provide elevations, slopes, locations, and extent of all proposed grading as shown by contours, cross sections, or other means. The locations of any disposal areas, fills, or other special features shall also be shown. Existing and proposed topography shall be illustrated by tying in proposed contours with existing topography. G. **Clearing and Grading Narrative** – The DESCP shall include a table with the estimated quantities of material excavated or filled for the site and all Project elements (Project site, laydown area, transmission and pipeline corridors, roadways, and bridges) whether such excavation or fill is temporary or permanent, and the amount of such material to be imported or exported. H. **Soil Wind and Water Erosion Control -** The plan shall address exposed soil treatments to be used during construction and operation of the proposed Project for both road and non-road surfaces including specifically identifying all chemical based dust palliatives, soil bonding, and weighting agents appropriate for use at the proposed Project site that would not cause adverse effects to vegetation. BMPs shall include measures designed to prevent wind and water erosion including application of chemical dust palliatives after rough grading to limit water use. All dust palliatives, soil binders, and weighting agents shall be approved by the CPM prior to use. I. **Best Management Practices Plan –** The DESCP shall identify on the topographic site map(s) the location of the site specific BMPs to be employed during each phase of construction (initial grading, Project element excavation and construction, and final grading/stabilization). BMPs shall include measures designed to control dust, stabilize construction access roads and entrances, and control storm water runoff and sediment transport. J. **Best Management Practices Narrative –** The DESCP shall show the location (as identified in (I) above), timing, and maintenance schedule of all erosion- and sediment-control BMPs to be used prior to initial grading, during all Project element (site, pipelines) excavations and construction, final grading/stabilization, and operation. Separate BMP implementation schedules shall be provided for each Project element for each phase of construction. The maintenance schedule shall include post-construction maintenance of structural-control BMPs, or a statement provided about when such information would be available. K. **Project Schedule –** The DESCP shall identify on the topographic site map the location of the site-specific BMPs to be employed during each phase of construction (initial grading, Project element construction, and final grading/stabilization). Separate BMP implementation schedules shall be provided for each Project element for each phase of construction.	the effectiveness of the drainage, erosion, and sediment-control measures and the results of monitoring and maintenance activities. Once operational, the project owner shall update and maintain the DESCP for the life of the Project and shall provide in the annual compliance report information on the results of monitoring and maintenance activities.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
L. **Erosion Control Drawings –** The erosion-control drawings and narrative shall be designed, stamped and sealed by a professional engineer or erosion control specialist. M. **Agency Comments –** The DESCP shall include copies of recommendations, conditions, and provisions from the California Department of Fish and Game (CDFG) and Colorado River Basin Regional Water Quality Control Board (CRBWQCB). N. **Monitoring Plan:** Monitoring activities shall include routine measurement of the volume of accumulated sediment in the onsite drainage ditches, and storm water diversions. The monitoring plan shall be part of the Channel Maintenance Program, **SOIL&WATER-15**.		CEC/BLM
SOIL&WATER-2 To mitigate the impact from Project pumping, the Project owner shall identify and implement offset measures to mitigate the increase in discharge from surface water to groundwater that affects recharge from the Palo Verde Valley Groundwater Basin (USGS) to the Palo Verde Mesa Groundwater Basin (USGS). The project owner shall implement **SOIL&WATER-16** to evaluate the change in recharge over the life of the project including any latency effects from Project pumping. The offset measures shall consider water conservation projects such as payment for irrigation improvements in Palo Verde Irrigation District, land fallowing, and/or BLM's Tamarisk Removal Program or other proposed mitigation activities acceptable to the CPM. The activities proposed for mitigation shall be outlined in a Water Supply Plan that shall be provided to the CPM for review and approval and which shall include the following at a minimum: A. Identification of the water offsets as determined in **SOIL&WATER-16**; B. Demonstration of the Project owner's ability to conduct the activity; C. Whether any governmental approval of the identified offset will be needed, and if so, whether additional approval will require compliance with CEQA or NEPA; D. Demonstration of how much water is provided by each of the offset measures; E. An estimated schedule for completion of the activities; F. Performance measures that would be used to evaluate the amount of water replaced by the proposed offset measures; and G. A Monitoring and Reporting Plan outlining the steps necessary and proposed frequency of reporting to show the activities are achieving the intended benefits of the water supply offsets;	The project Owner shall submit a Water Supply Plan to the CPM for review and approval thirty (30) days before the start of extraction of groundwater for construction or operation. The Project owner shall implement the activities reviewed and approved in the Water Supply Plan in accordance with the agreed upon schedule in the Water Supply Plan. If agreement with the CPM on identification or implementation of offset activities cannot be achieved the Project owner shall immediately halt construction or operation until the agreed upon activities can be identified and implemented.	CEC/BLM
SOIL&WATER-3 The project owner proposes to construct and operate up to ten (10) onsite groundwater supply wells that produce water from the Palo Verde Mesa Groundwater Basin (PVMGB). The project owner shall ensure that the wells are completed in accordance with all applicable state and local water well construction permits and requirements. Prior to initiation of well construction activities, the project owner shall submit for review and comment a well construction packet to the County of Riverside and fees normally required for the county's well permit, with copies to the CPM. The Project shall not construct a well or extract and use groundwater until aan approval has been issued by the CPM to construct and operate the well. Wells permitted and installed as part of pre-construction field investigations that subsequently are planned for use as project water supply wells require CPM approval prior to their use to supply water to the project.	The project owner shall do all of the following: a. No later than sixty (60) days prior to the construction of the onsite groundwater production wells, the project owner shall submit to the CPM a copy of the water well construction packet submitted to the County of Riverside.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
Post-Well Installation. The project owner shall provide documentation as required under County permit conditions to the CPM that the well has been properly completed. In accordance with California's Water Code section 13754, the driller of the well shall submit to the DWR a Well Completion Report for each well installed. The project owner shall ensure the Well Completion reports are submitted. The project owner shall ensure compliance with all county water well standards and County requirements for the life of the wells and shall provide the CPM with two (2) copies each of all monitoring or other reports required for compliance with the County of Riverside water well standards and operation requirements, as well as any changes made to the operation of the well.	b. No later than thirty (30) days prior to the construction of the onsite groundwater production wells, the project owner shall submit a copy of written concurrence received from the County of Riverside that the proposed well construction activities comply with all county well requirements and meet the requirements established by the county's water well permit program. The CPM shall provide approval to the project owner of the well location and operation within ten (10) days of receipt of the County of Riverside's concurrence with the proposed well construction activities c. No later than sixty (60) days after installation of each well at the Project site, the project owner shall ensure that the well driller submits a Well Completion Report to the DWR with a copy provided to the CPM. The project owner shall submit to the CPM together with the Well Completion Report a copy of well drilling logs, water quality analyses, and any inspection reports. Additionally no later than sixty (60) days after installation of each well the Project owner shall submit documentation to the CPM and the CRBRWQCB that well drilling activities were conducted in compliance with Title 23, California Code of Regulations, Chapter 15, Discharges of Hazardous Wastes to Land, (23 CCR, sections 2510 et seq.) and that any onsite drilling sumps used for Project drilling activities were removed in compliance with 23 CCR section 2511(c) d. During well construction and for the operational life of the well, the project owner shall submit two copies the CPM of any proposed well construction or operation changes.	CEC/BLM
SOIL&WATER-4 The proposed Project's use of groundwater during construction shall not exceed 4,100 af during the 69 months of construction and an annual average of 600 afy during operation). Water quality used for project construction and operation will be reported in accordance with Condition of Certification **SOIL&WATER-18** as applicable to ensure compliance with this condition.	At least ten (10) days prior to the start of groundwater pumping for construction of the proposed Project, the Project owner shall submit to the CPM a copy of evidence that metering devices have been installed and are operational.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
Prior to the use of groundwater for construction, the project owner shall install and maintain metering devices as part of the water supply and distribution system to document Project water use and to monitor and record, in gallons per day, the total volume(s) of water supplied to the Project from this water source. The metering devices shall be operational for the life of the Project.	Beginning six months after the start of construction, the project owner shall prepare a semi-annual summary of amount of water used for construction purposes. The summary shall include the monthly range and monthly average of daily water usage in gallons per day. The project owner shall prepare an annual summary, which shall include daily usage, monthly range and monthly average of daily water usage in gallons per day, and total water used on a monthly and annual basis in acre-feet. For years subsequent to the initial year of operation, the annual summary shall also include the yearly range and yearly average water use by source. For calculating the total water use, the term "year" will correspond to the date established for the annual compliance report submittal.	
SOIL&WATER-5 The project owner shall submit a Groundwater Level Monitoring, Mitigation, and Reporting Plan to both the CPM for review and approval in advance of using onsite wells to supply groundwater for construction activities. The Groundwater Level Monitoring, Mitigation, and Reporting Plan shall provide detailed methodology for monitoring background and site groundwater levels. Monitoring shall include pre-construction, construction, and operational water use. The plan shall establish pre-construction groundwater level trends from available data that can be quantitatively used as a baseline to establish pre-Project water level trends and to subsequently compare to operational Project pumping water level data. **A. Prior to Project Construction** 1. A well reconnaissance shall be conducted to investigate and document the condition of existing water supply wells as established by the groundwater model and condition A.2 below, provided that access is granted by the well owners. The reconnaissance shall include sending notices by registered mail to all property owners for wells identified under condition A.2 below. 2. The monitoring network for offsite wells shall be defined by the groundwater model developed for the AFC, using the lower transmissivity value derived from aquifer testing on the site, so as to provide a conservative estimate of the potential impact, and to identify the area predicted to show a water level change of 1 feet or more at the end of construction and at the end of operation. 3. Monitor to establish preconstruction conditions. The network of monitoring wells shall make use of existing wells in the basin that are accessible and would satisfy the requirements for the monitoring program. The monitoring network shall also include any monitoring wells that are installed to comply with Waste Discharge Requirements (see **SOIL&WATER-7**). Provided access is granted, additional wells located outside of the area defined by the model and Condition A.2 above will be located to serve as background monitoring wells. Abandoned wells, or wells no longer in use, that are accessible and provide reliable water level data within the potentially impacted area may also be included as part of the monitoring network. A site reconnaissance will be performed to identify wells that could be	The project owner shall do all of the following: a. At least thirty (30) days in advance of using onsite wells to supply groundwater for Project construction, a Groundwater Monitoring and Reporting Plan shall be submitted to the CPM for review and approval before completion of Condition of Certification SOIL&WATER-3 (Well Installation). The Groundwater Monitoring and Reporting Plan shall provide the methodology for monitoring background and site groundwater levels. b. At least fifteen (15) days in advance of using onsite wells to supply groundwater for Project construction activities, the project owner shall submit to the CPM, a comprehensive report presenting all the data and information required in item A above. The CPM will provide comments to the plan following submittal. CPM approval of the plan is required prior to operation of the site groundwater supply wells. The project owner shall also submit to the CPM all calculations and assumptions made in development of the report data and interpretations.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
accessible for monitoring. As access to these wells is available, historic water level, water quality, well construction and well performance information shall be obtained for both pumping and non-pumping conditions. 4. As access allows, in advance of using onsite wells to supply groundwater for construction activities, groundwater levels will be measured from the off-site and on-site wells within the network and background wells to provide initial groundwater levels for pre-project trend analysis. The installation and monitoring of water levels using pressure transducers shall be done in selected wells to provide an assessment of seasonal trends. 5. Construct water level maps within the PVMGB within the area encompassed by all monitoring wells in A.1, 2, 3 and 4 above prior to construction. As data is available, the Project owner shall prepare trend plots, perform statistical analyses using the Mann-Kendall test (or other CEC-approved statistical analysis method) for trend to assess pre-project water level trends. **B. During Construction:** 1. Collect water levels on a quarterly basis throughout the construction period and at the end of the construction period. Perform statistical trend analysis for water levels using the Mann-Kendall test (or other CEC-approved statistical analysis method). Assess the significance of an apparent trend and estimate the magnitude of that trend. **C. During Operation:** 1. On a quarterly basis for the first year of operation and semi-annually thereafter for the following four years, collect water level measurements from any wells identified in the groundwater monitoring program to evaluate operational influence from the Project. Quarterly operational parameters (i.e., pumping rate) of the water supply wells shall be monitored as access allows for those wells within the monitoring network. Wells outside the network and their influence on pumping within the network shall be evaluated on a quarterly basis to understand well interference from sources of pumping outside the Project area. 2. On an annual basis, perform statistical trend analysis for water levels data and comparison to predicted water level declines due to project pumping. Analysis of the significance of an apparent trend shall be determined and the magnitude of that trend estimated. Pressure transducer data from groundwater level measuring devices will be used to assess seasonality and diurnal trends in the water level date. Based on the results of the statistical trend analyses and comparison to predicted water level declines due to Project pumping, the project owner shall determine the area where the Project pumping has induced a drawdown in the water supply at a level of 5 feet or more below the baseline trend. 3. If water levels have been lowered more than 5 feet below pre-site operational trends, and monitoring data provided by the project owner show these water level changes are different from background trends or other groundwater pumping and are caused by Project pumping, then the project owner shall provide mitigation to the impacted well owner(s). Mitigation shall be provided to the impacted well owners that experience 5 feet or more of Project-induced drawdown if the CPM's inspection of the well monitoring data confirms changes to water levels and water level trends relative to measured pre-project water levels, and the well (private owners well in question) yield or performance has been significantly affected by Project pumping. The type and extent of mitigation shall be determined by the amount of water level decline induced by the Project, the type of impact, and site specific well construction and water use characteristics. If an impact is determined to be caused by drawdown from more than one source, the level of mitigation provided shall be proportional to the amount of drawdown induced by the Project	c. During Project construction, the project owner shall submit to the CPM quarterly reports presenting all the data and information required in item B above. The quarterly reports shall be provided thirty (30) days following the end of the quarter. The project owner shall also submit to the CPM all calculations and assumptions made in development of the report data and interpretations. d. No later than March 31 of each year of construction or sixty (60) days prior to Project operation, the project owner shall provide to the CPM for review and approval, documentation showing that any mitigation to private well owners during Project construction was satisfied, based on the requirements of the property owner as determined by the CPM. e. During Project operation, the project owner shall submit to the CPM, applicable quarterly, semi-annual and annual reports presenting all the data and information required in item C above. Quarterly reports shall be submitted to the CPM thirty (30) days following the end of the quarter. The fourth quarter report shall serve as the annual report and will be provided on January 31 in the following year. f. The project owner shall submit to the CPM all calculations and assumptions made in development of report data and interpretations, calculations, and assumptions used in development of any reports. g. After the first five year operational and monitoring period, the project owner shall submit a 5-year monitoring report to the CPM that includes all monitoring data collected and a summary of the findings. The CPM will determine if the water level measurements and water quality sampling frequencies should be revised or eliminated.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
relative to other sources. In order to be eligible, a well owner must provide documentation of the well location and construction, including pump intake depth, and that the well was constructed and usable before Project pumping was initiated. The mitigation of impacts shall be determined as follows: a. If Project pumping has lowered water levels by 5 (five) feet or more and increased pumping lifts, increased energy costs shall be calculated. Payment or reimbursement for the increased costs shall be provided on an annual basis. In the absence of specific electrical use data supplied by the well owner, the project owner shall use SOIL&WATER-6 to calculate increased energy costs. b. If groundwater monitoring data indicate Project pumping has lowered water levels below the top of the well screen, and the well yield is shown to have decreased by 10 percent or more of the pre-Project average seasonal yield, compensation shall be provided for the diagnosis and maintenance to treat and remove encrustation from the well screen. Reimbursement shall be provided at an amount equal to the customary local cost of performing the necessary diagnosis and maintenance for well screen encrustation. Should the well yield reductions be recurring, the project owner shall provide payment or reimbursement for periodic maintenance throughout the life of the Project. If with treatment the well yield is incapable of meeting 110 percent of the well owner's historic operational maximum daily demand, dry season demand, or annual demand, or the wells sustainable maximum yield demonstrated through well testing, the well owner should be compensated by reimbursement or well replacement as described under 3.c. below. c. If Project pumping has lowered water levels to significantly impact well yield so that it can no longer meet its intended purpose, causes the well to go dry, or cause casing collapse, payment or reimbursement of an amount equal to the cost of deepening or replacing the well shall be provided to accommodate these effects. Payment or reimbursement shall be at an amount equal to the customary local cost of deepening the existing well or constructing a new well of comparable design and yield (only deeper). The demand for water, which determines the required well yield, shall be determined on a per well basis using well owner interviews historic well operational records and well testing data, field verification of property conditions and water requirements that are compiled as part of the pre-project well reconnaissance. Well yield shall be considered significantly impacted if it is incapable of meeting 110 percent of the well owner's historical operational maximum daily demand, dry-season demand, or annual demand as documented by the pre-Project historical operational records or 100% of the maximum sustainable well yield as provided in historic well testing data. If historic well testing data indicates the capacity of the well is higher than the operational data suggests, the well shall be operated for a sufficient period of time acceptable to the CPM, Project owner and well owner to demonstrate that its maximum sustainable yield has been impacted solely by the Project pumping. If by comparison the well is incapable of meeting 100% of the historic maximum sustainable yield demonstrated by the testing, and the reduction in capacity is solely related to the Project pumping, the well owner should be compensated for the lost capacity. Compensation for lost capacity in lieu of well replacement shall be in the form of a lump sum payment equal to the cost of deepening the well to a depth sufficient to return the well yield to its maximum sustainable yield. . d. The project owner shall notify any owners of the impacted wells within one month of the CPM approval of the compensation analysis for increased energy costs. e. Pump lowering – In the event that groundwater is lowered as a result of Project pumping to an extent where pumps are exposed but well screens remain submerged the pumps shall be lowered to maintain production in		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
the well. The Project shall reimburse the impacted well owner for the costs associated with lowering pumping in proportion to the Project contribution to the impact. f. Deepening of wells – If the groundwater is lowered enough as a result of Project pumping that well screens and/or pump intakes are exposed, and pump lowering is not an option, such affected wells shall be deepened or new wells constructed. The Project shall reimburse the impacted well owner for all costs associated with deepening existing wells or construction of a new well in proportion to the Project contribution to the impact. 4. After the first five-year operational and monitoring period the CPM shall evaluate the data and determine if the monitoring program for water level measurements should be revised or eliminated. Revision or elimination of any monitoring program elements shall be based on the statistically verifiable datasets and trend analysis. The determination of whether the monitoring program should be revised or eliminated shall be made by the CPM. 5. If mitigation includes monetary compensation, the project owner shall provide documentation to the CPM that compensation payments have been made by March 31 of each year of Project operation. Within thirty (30) days after compensation is paid, the project owner shall submit to the CPM a compliance report describing compensation for increased energy costs necessary to comply with the provisions of this condition. 6. At the end of every subsequent five-year monitoring period, the collected data shall be evaluated by the CPM and they shall determine if the sampling frequency should be revised or eliminated. 7. During the life of the Project, the project owner shall provide to the CPM all monitoring reports, complaints, studies and other relevant data within ten (10) days of being received by the Project owner.		
SOIL&WATER-6 Where it is determined that the project owner shall reimburse a private well owner for increased energy costs identified as a result of analysis performed in Condition of Certification **SOIL&WATER-5,** the project owner shall calculate the compensation owed to any owner of an impacted well as described below. ***Increased cost for energy*** = change in lift/total system head x total energy consumption x costs/unit of energy Where: change in lift (ft) = calculated change in water level in the well resulting from project total system head (ft) = elevation head + discharge pressure head elevation head (ft) = difference in elevation between wellhead discharge pressure gauge and water level in well during pumping. discharge pressure head (ft) = pressure at wellhead discharge gauge (psi) X 2.31 PROTOCOL: The project owner shall submit to the CPM for review and approval the documentation showing which well owners must be compensated for increased energy costs and that the proposed amount is sufficient compensation to comply with the provisions of this condition. Any reimbursements to impacted well owners shall be only to those well owners whose wells were in service within six months of the Energy Commission decision and within the monitoring area predicted by the groundwater modeling condition A.2.	The Project owner shall do all of the following: a. No later than thirty (30) days after CPM approval of the well drawdown analysis, the project owner shall submit to the CPM for review and approval all documentation and calculations describing necessary compensation for energy costs associated with additional lift requirements. b. The project owner shall submit to the CPM all calculations, along with any letters signed by the well owners indicating agreement with the calculations, and the name and phone numbers of those well owners that do not agree with the calculations.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
The project owner shall notify all owners of the impacted wells within one month of the CPM approval of the compensation analysis for increase energy costs. Compensation shall be provided on an annual basis, as described below. Compensation provided on an annual basis shall be calculated prospectively for each year by estimating energy costs that will be incurred to provide the additional lift required as a result of the project. With the permission of the impacted well owner, the project owner shall provide energy meters for each well or well field affected by the project. The impacted well owner to receive compensation must provide documentation of energy consumption in the form of meter readings or other verification of fuel consumption. For each year after the first year of operation, the project owner shall include an adjustment for any deviations between projected and actual energy costs for the previous calendar year.		
SOIL&WATER-7 The project owner shall comply with the requirements specified in Appendix B, C, and D. These requirements relate to discharges, or potential discharges, of waste that could affect the quality of waters of the state, and were developed in consultation with staff of the State Water Resources Control Board and/or the applicable California Regional Water Quality Control Board (hereafter "Water Boards"). It is the Commission's intent that these requirements be enforceable by both the Commission and the Water Boards. In furtherance of that objective, the Commission hereby delegates the enforcement of these requirements, and associated monitoring, inspection and annual fee collection authority, to the Water Boards. Accordingly, the Commission and the Water Board shall confer with each other and coordinate, as needed, in the enforcement of the requirements. The project owner shall pay the annual waste discharge permit fee associated with this facility to the Water Boards. In addition, the Water Boards may "prescribe" these requirements as waste discharge requirements pursuant to Water Code Section 13263 solely for the purposes of enforcement, monitoring, inspection, and the assessment of annual fees, consistent with Public Resources Code Section 25531, subdivision (c)	No later than sixty (60) days prior to any wastewater or storm water discharge or use of land treatment units, the project owner shall provide documentation to the CPM, with copies to the CRBRWQCB, demonstrating compliance with the WDRs established in Appendices B, C, and D. Any changes to the design, construction, or operation of the evaporation basins,, treatment units, or storm water system shall be requested in writing to the CPM, with copies to the CRBRWQCB, and approved by the CPM, in consultation with the CRBRWQCB, prior to initiation of any changes. The project owner shall provide to the CPM, with copies to the CRBRWQCB, all monitoring reports required by the WDRs, and fully explain any violations, exceedances, enforcement actions, or corrective actions related to construction or operation of the evaporation basins, treatment units, or storm water system.	CEC/BLM
SOIL&WATER-8 The project owner shall comply with the requirements of the County of Riverside Ordinance Code Title 8, Chapter 8.124 and the California Plumbing Code (California Code of Regulations Title 24, Part 5) regarding sanitary waste disposal facilities such as septic systems and leach fields. The septic system and leach fields shall be designed, operated, and maintained in a manner that ensures no deleterious impact to groundwater or surface water. Compliance shall include an engineering report on the septic system and leach field design, operation, maintenance, and loading impact to groundwater. If it is determined based on the engineering report that groundwater may be impacted, the project owner shall include a groundwater quality monitoring program. This program can utilize monitoring wells (if appropriate) used as part of groundwater monitoring in Condition of Certification **SOIL&WATER-7**. The engineering report will specify the proposed groundwater monitoring program (if required), constituents of concern, monitoring frequency and other elements as needed as part of any groundwater monitoring program	The project owner shall submit all necessary information and the appropriate fee to the County of Riverside and the CRBRWQCB to ensure that the project has complied with county and state sanitary waste disposal facilities requirements. Written assessments prepared by the County of Riverside and the CRBRWQCB regarding the project's compliance with these requirements must be submitted to the CPM for review and approval thirty (30) days prior to the start of power plant operation.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
SOIL&WATER-9 The Project is subject to the requirement of Water Code Sections 4999 et. seq. for reporting of groundwater production in excess of 25 acre feet per year.	The project owner shall file an annual "Notice of Extraction and Diversion of Water" with the SWRCB in accordance with Water Code Sections 4999 et. seq. The Project Owner shall include a copy of the filing in the annual compliance report.	CEC/BLM
SOIL&WATER-10 The project owner shall identify likely decommissioning scenarios and develop specific decommissioning plans for each scenario that will identify actions to be taken to avoid or mitigate long-term impacts related to water and wind erosion after decommissioning. Actions may include such measures as a decommissioning SWPPP, revegetation and restoration of disturbed areas, post-decommissioning maintenance, collection and disposal of project materials and chemicals, and access restrictions.	At least sixty (60) days prior to the start of site mobilization or alternate date as agreed to with BLM, the project owner shall submit decommissioning plans to the CPM for review and approval. The project owner shall amend these documents as necessary, with approval from the CPM, should the decommissioning scenario change in the future.	CEC/BLM
SOIL&WATER-11 The project owner shall provide a revised Drainage Report which includes the following additional information: A. A detailed explanation of the large differences in pre- and post-project peak discharges and flood volumes along the downstream (east) Project boundary as currently indicated by the HEC-HMS results. B. Pre- and post development drainage maps which include the following information: 1. All topographic data used to establish the overall watershed boundaries as well as the sub-basin boundaries. 2. A delineation of all onsite watersheds with basin areas, points of concentration, and peak discharge values where the smaller onsite channels discharge into the larger collector and conveyance channels. 3. Calculations and summarized results for all onsite swales and onsite channels showing adequate depth and non-erosive velocities. 4. A specific discussion of how the proposed onsite drainage design will protect the facility from erosion and the possible failure of the facilities resulting in a release of HTF. 5. Peak flow values at all downstream points of discharge from the Project. 6. Any other information needed to allow a correlation between the HEC-HMS model and the proposed drainage design. C. Detailed scour calculations to justify toe-down depths for all soil cement segments, drop structures and any other features where scour is an issue. D. Hydraulic analysis of all onsite and offsite channel confluences and a justification of whether or not soil cement or other suitable protection is required.	The project owner shall submit a Revised Project Drainage Report with the 30 percent Grading and Drainage Plans to the CPM for their review and comments sixty (60) days before project mobilization. The project owner shall address comments provided by the CPM until approval of the report is issued. All comments and concepts presented in the approved Revised Project Drainage Report with the 30 percent Grading and Drainage Plans shall be included in the final Grading and Drainage Plans. The Revised Project Drainage Report and 30 percent Grading and Drainage Plans shall be approved by the CPM.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
SOIL&WATER-12 The project owner shall provide a detailed hydraulic analysis utilizing FLO-2D which models pre- and post-development flood conditions for the 10-, 25- and 100-year storm events. The post-development model must include all proposed collector channels, end diffuser structures and berms. The methods and results of the analysis shall be fully documented in a Technical Memorandum or in the revised Project Drainage Report. Graphical output must include depth and velocity mapping as well as mapping which graphically shows the changes in both of these parameters between the pre- and post development conditions. Color shading schemes used for the mapping must be consistent between all maps as well as clear and easily differentiated between designated intervals for hydraulic parameters. Intervals to be used in the mapping are as follows: *Flow Depth*: at 0.20 ft intervals up to 1 ft, and 0.40 ft intervals thereafter. *Velocity*: 0.5 ft/s intervals A set of figures shall be provided at a scale of no less than 1 in to 200 ft which show the extents and depths of flows entering the North, South and West channels for the 100-year event. A figure at the same scale shall also be provided for depth, velocity and the relative change in these parameters at and downstream of the four end diffuser structures for the 10-, 25- and 100-year events. Digital input and output files associated with the FLO-2D analysis must be included with all submittals. The results of this analysis shall be used for design of the 30 percent project grading and drainage plans.	The project owner shall submit a detailed FLO-2D analysis to the CPM for their review and comments with the 30 percent plan Grading and Drainage Plans and revised Project Drainage Report required in **SOIL&WATER-11**. The project owner shall address comments provided by the CPM until approval of the analysis is issued	CEC/BLM
SOIL&WATER-13 All collector and conveyance channels shall be constructed consistent with Riverside County Flood Control and Water Conservation District (RCFCWCD) guidelines where applicable. Grade control structures shall be utilized where needed to meet channel velocity and Froude number requirements. Channels shall be sized along discreet sections based on the results of the detailed FLO-2D analysis described in **SOIL&WATER-12**. All grade control and drop structures shall have adequate toe-down to account for the design drop plus two additional feet to account for potential downcutting of the channel over time. Channel confluence design must be given special consideration, especially as the preliminary Grading and Drainage Plans show 90 degree angles of confluence at nearly all locations. The issues of confluence hydraulics and potential scour shall be specifically addressed in the revised Drainage Report. Offsite flows shall discharge directly into collector channels following the natural drainage patterns. The possible exception to this design approach is discussed in **SOIL&WATER-14** (F). The proposed collector channel design must be fully documented in the Grading and Drainage plans and must include the following information: A. Detailed and accurate cut/fill lines demonstrating in plan view how the channel would tie into existing grade and the solar facility. B. Channel cross-sections at 200-foot intervals (or less as required to show all structures/configurations) showing the channel geometry, existing grade, proposed grade at the facility and how the channel would tie in at on both sides. C. Detailed channel profiles showing existing and finished grades at channel flow line and left and right banks. All drop structures as well as the toe-of soil cement profile must also be shown and fully annotated. The 100-year water surface elevation will be provided on all profiles.	The project owner shall prepare preliminary, 30 percent channel design drawings and submit two copies for the CPM review and comment. The preliminary design drawings shall be submitted at the same time as the **Revised Project Drainage Report**, **SOIL&WATER-11** and FLO 2D Analysis in **SOIL&WATER-12**. The project owner will update and modify as necessary to obtain the CPM approval.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
D. Typical sections and design details for all discreet channel sections, drop structures, channel confluences, flow dispersion structures and other relevant drainage features. E. Consistent nomenclature and stationing on all plans, sections, profiles and details.		
SOIL&WATER–14 The project owner must provide revised preliminary Grading and Drainage Plans which incorporate the items and information as listed below for the channels designated as North, West, South, Southeast and Central on the existing plans (AECOM2010a). A. Soil cement bank protection must be provided such that the channels are adequately protected from bank erosion and lateral headcutting. The extents of the proposed bank protection must be shown on the revised Grading and Drainage Plans. Typical sections for these channels must show the layout of the bank protection including thickness, width and toe-down location and depth consistent with the scour calculation provided in the revised Drainage Report. B. Soil cement bank protection shall be provided on both channel banks wherever 10-year channel flow velocity exceeds 5 ft/s. It shall be provided on the outer channel bank wherever offsite topography and a detailed FLO-2D analysis indicate surface flow would enter the collector channels. C. Soil cement bank protection shall be provided at all channel confluences of otherwise unlined channels where the result of the detailed hydraulic analysis presented in the revised Drainage Report indicate the increased potential for erosion due to adverse angles of confluence. Detailed plans for each confluence showing the extents of the soil cement based on specific hydraulic conditions shall be provided in the formal Grading and Drainage Plans. D. Other methods of channel stabilization, such as dumped riprap or gabions, will not be permitted. Bio-stabilization measures are not permitted. E. Earthen berms used on the outside of collector channels to guide flow to discreet points of discharge into a channel shall not be utilized in lieu of soil cement on the outside bank of collector channels. Offsite flows shall discharge directly into collector channels. F. The possible exception to the requirements of **SOIL&WATER-13**(E) would be along the North Channel for a total distance of approximately 14,000 feet. Along this reach, earthen berms and channel drop inlets might be utilized as opposed to soil along the upstream face of the collector channels. The berms would start at a point approximately 4,825 feet east of the western property boundary (just east of the natural wash) and extend to a point approximately 18,710 feet east of the west property boundary (where the north collector channel bottom width transitions from 100 feet to 150 feet wide). The use of berms and channel drop inlets may be justified along this reach as available topography indicates that the predominate flow pattern is roughly parallel to the channel and that inflows would be minimal. This condition as well as the actual extents of where berms may be utilized will be based on the results of the post-development FLO-2D analysis. The use of unlined berms will require that the post-development FLO-2D analysis for the 100-year flow event demonstrate non-erosive flow velocities based on site specific soils characteristics. Lining of the outside of the berm with gunite or other approved material will be required along reaches where the 100-year flow velocities are shown to be erosive. In the absence of more specific data, 100-year flow velocities in excess of 5.0 ft/s will be considered erosive. Drop inlets must be fully protected from erosion, sized appropriately for the anticipated 100-year flow, and be designed	The required information and criteria shall be incorporated into the Grading and Drainage Plans and with all subsequent submittals as required in **SOIL&WATER-11** and **SOIL&WATER-12**. The project owner shall address all comments by the CPM related to the channel erosion protection design through final plan approval.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
for complete interception of the upstream flows to eliminate the potential for bypass flow to the subsequent downstream drop inlet structure. These structures must also to be fully protected from erosion and failure related to the 100-year discharge within the north collector channel., G. The height of the proposed berms must be at least three feet and must provide a minimum of 1 foot of freeboard based on the flow depths determined in the post-development FLO-2D analysis. The maximum discharge to be collected at any single channel drop inlet should not be greater than 50 cfs based on the results of the post- development FLO-2D analysis. H. Design and construction criteria for the use of soil cement on the site shall be prepared by the Owner/Developer's engineer in conjunction with the design methodology established by the Geotechnical Engineer of Record. The design and construction criteria shall be based on local and/or regional requirements and specifications. The design and construction criteria, the geotechnical design for the soil cement, the site specific specifications for the soil cement, the method of installation for the soil cement, and the local or regional standards being used for the design criteria shall be provided to the CPM for review and approval consistent with the verification requirements for this Condition of Certification. The slope requirements that are proposed for use (3:1 or 4:1), and the associated method of installation (i.e., 8 inch lift versus slope application) shall be fully documented for review and approval by the CPM prior to any field installation of soil cement. I. A soils report indicating the suitability of the Project soils for use in the production of soil cement to the Project specifications shall be submitted with the revised Grading and Drainage Plans. J. The bottom of engineered collector channels may be left earthen or fully lined at the discretion of the engineer. Fully lined channels will have higher allowable velocities and Froude numbers assuming hydraulic jumps are modeled and considered in the channel design. K. If modifications to the existing drainages to allow construction of and future access to linear facilities require stabilization of the channel in the vicinity of those modifications, location of disturbance to the existing drainages shall be stabilized consistent with best engineering practice to eliminate future negative impacts to those drainages upstream and downstream of the linear facility in the form of downcutting, erosion and headcutting. The use of "non-engineered" culvert crossings shall not be allowed. All structures to be utilized in existing drainages along linear facilities shall be documented in the project drainage report and reflected in the project improvement plans. Channel erosion mitigation measures along linear facilities shall be subject to all the requirements of this Condition of Certification where applicable.		
SOIL&WATER-15 The project owner shall develop and implement a Channel Maintenance Program that provides long-term guidance to implement routine channel maintenance projects and comply with conditions of certification in a feasible and environmentally-sensitive manner. The Channel Maintenance Program will be a process and policy document prepared by the Project owner, reviewed and approved by the CPM. The Channel Maintenance Program shall include the following: A. **Purpose and Objectives** – Establishes the main goals of the Program, of indefinite length, to maintain the diversion channel to meet its original design to provide flood protection, support Project mitigation, protect wildlife habitat and movement/ migration, and maintain groundwater recharge. B. **Application and Use** - The channel maintenance work area is defined as the BSPP engineered channel, typically extending to the top of bank, include access roads, and any adjacent property that the Project owns or holds an	At least sixty (60) days prior to the start of any project-related site disturbance activities (excluding linear construction), the project owner shall coordinate with the CPM to develop the Channel Maintenance Program. The project owner shall submit two copies of the programmatic documentation, describing the proposed Channel Maintenance Program, to the CPM (for review and approval). The project owner shall provide written notification that they plan to adopt and implement the measures identified in the approved	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
easement for access and maintenance. The Program shall include all channel maintenance as needed to protect the Project facilities and downstream property owners. C. **Channel Maintenance Activities** 1. **Sediment Removal** - sediment is removed when it: (1) reduces the diversion channel effective flood capacity, to less than the design discharge, (2) prevents appurtenant hydraulic structures from functioning as intended, and (3) becomes a permanent, non-erodible barrier to instream flows. 2. **Vegetation Management** - Vegetation management shall include control of invasive or nonnative vegetation as prescribed in Condition of Certification **BIO-14**. 3. **Bank Protection and Grade Control Repairs** – Bank protection and grade control structure repairs involve any action by the Project owner to repair eroding banks, incising toes, scoured channel beds, as well as preventative erosion protection. The Project owner shall implement instream repairs when the problem: (1) causes or could cause significant damage to the Project; adjacent property, or the structural elements of the diversion channel; (2) is a public safety concern; (3) negatively affects groundwater recharge; or (4) negatively affects the mitigation vegetation, habitat, or species of concern. 4. **Routine Channel Maintenance** - trash removal and associated debris to maintain channel design capacity; repair and installation of fences, gates and signs; grading and other repairs to restore the original contour of access roads and levees (if applicable); and removal of flow obstructions at Project storm drain outfalls. 5. **Channel Maintenance Program** – Exclusions including: emergency repair and CIP. D. **Related Programmatic Documentation** – the CPM will review and approve the Channel Maintenance Program programmatic documentation. Maintenance activities shall comply with the streambed alteration agreement provisions and requirements for channel maintenance activities consistent with California's endangered species protection regulations and other applicable regulations. E. **Channel Maintenance Process Overview** 1. **Program Development and Documentation** – This documentation provides the permitting requirements for channel maintenance work in accordance with the conditions of certification for individual routine maintenance of the engineered channel without having to perform separate CEQA/NEPA review or obtain permits. 2. **Maintenance Guidelines** - based on two concepts: (1) the maintenance standard and (2) the acceptable maintenance condition, and applies to sediment removal, vegetation management, trash and debris collection, blockage removal, fence repairs, and access road maintenance. 3. **Implementation** – Sets Maintenance Guidelines for vegetation and sediment management. The Project's vegetation management activities are established in Condition of Certification **BIO-14**. Maintenance Guidelines for sediment removal provide information on the allowable depth of sediment for the engineered channel that would continue to provide design discharge protection. 4. **Reporting** – the CPM requires the following reports to be submitted each year as part of the Annual Compliance Report:	Channel Maintenance Program. The project owner shall: a. Supervise the implementation of a Channel Maintenance Program in accordance with conditions of certification; b. Ensure the Project Construction and Operation Managers receive training on the Channel Maintenance Program; and c. As part of the Project Annual Compliance Report to the CPM, submit a Channel Maintenance Program Annual Report specifying which maintenance activities were completed during the year including type of work, location, and measure of the activity (e.g. cubic yards of sediment removed).	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
a. Channel Maintenance Work Plan - Describes the planned "major" maintenance activities and extent of work to be accomplished; and b. Channel Maintenance Program Annual Report – Specifies which maintenance activities were completed during the year including type of work, location, and measure of the activity (e.g. cubic yards of sediment removed). c.A report describing "Lessons Learned" to evaluate the effectiveness of both resource protection and maintenance methods used throughout the year. F. **Resource Protection Policies** - establishes policies to ensure that **resources** would be protected to the fullest extent feasible during routine channel maintenance activities. Policies shall be developed to guide decision-making for channel maintenance activities. BMPs shall be developed to implement these policies.		
SOIL&WATER-16 To further assess the impacts from Project pumping, the project owner shall estimate the increase in discharge from surface water to groundwater that affects recharge from the Palo Verde Valley Groundwater Basin (USGS) to the Palo Verde Mesa Groundwater Basin (USGS). This estimate may be used for determining the appropriate offset volume in accordance with **SOIL&WATER-2**. The project owner shall do the following to provide an estimate for review and approval by the CPM: 1. The project owner shall conduct a detailed analysis of the contribution of surface water to the PVMGB from the Project's groundwater extraction activities at the end of the 30 year operational period. The detailed analysis shall include: a. The conceptual model developed in the AFC and the Staff Assessment, and any changes resultant from further analysis in support of numerical modeling; b. The use of an appropriately calibrated and constructed groundwater flow model of the Palo Verde Valley and Palo Verde Mesa Groundwater Basin, inclusive of the Mesa and floodplain shall include: i. Horizontal and vertical geometry information gained through on- and offsite investigations conducted as part of the hydrogeological field investigations for the AFC, and any subsequently documented investigation performed as part of the model development ; ii. Aquifer properties developed as part of the AFC and any subsequently documented investigations performed as part of the model development, and an assessment of aquifer properties available from other published sources. The properties used shall be representative of the available data, and will be used in calibration of the flow model under ASTM standards and methods.; and iii. The modeling effort shall include a sensitivity analysis where in the most sensitive variables will be identified and varied within a reasonable range outside of the calibration value to provide an assessment of the range of potential impacts from the Project pumping on the recharge from the Palo Verde Valley Groundwater Basin to the Palo Verde Mesa Groundwater Basin. c. Reporting of the results of the modeling effort d. Estimation of the increased contribution of surface water discharge to groundwater and the change in recharge to the Palo Verde Mesa Groundwater Basin attributable to Project groundwater pumping.	Within thirty (30) days following certification of the proposed Project, the project owner shall submit to the CPM for their review and approval a report detailing the results of the modeling effort. The report shall include the estimated amount of subsurface water flowing from the surface water due to project pumping. This estimate shall be used for determining the appropriate volume of water for mitigation in accordance with **SOIL&WATER-2**.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
2. The analysis shall include the following elements: a. The change in groundwater flux to the regional aquifer from surface water sources attributable to Project pumping in afy for the life of the Project (30 years) until pre-project (within 95%) conditions are achieved; b. A sensitivity analysis that would provide a range in the potential changes in flux relative to variation in the key model variables as a result of Project pumping for life of the Project until pre-project (within 95%) conditions are achieved; 3. The project owner shall present the results of the conceptual model, numerical model, transient runs and sensitivity analysis in a report for review and approval by the CPM. The report shall include all pertinent information regarding the development of the numerical models. The report shall include: a. Introduction b. Previous Investigations c. Conceptual Model d. Numerical Model and Input Parameters e. Sensitivity Analysis f. Transient Modeling Runs g. Conclusions		
SOIL&WATER-18 The Project is subject to the requirement of Title 22, Article 3, Sections 64400.80 through 64445 for a non-transient, non-community water system (serving 25 people or more for more than six months). In addition, the system shall require periodic monitoring for various bacteriological, inorganic and organic constituents.	The project owner shall submit the equivalent County of Riverside requirements to operate a non-transient, non-community water system at least sixty (60) days prior to commencement of operations at the site. The requirements will be in accordance with the County of Riverside requirements for a non-transient, non-community water system. In addition, the Project Owner shall submit to the CPM a monitoring and reporting plan for production wells operated as part of the domestic water supply system prior to plant operations. The plan shall include reporting requirements including monthly, quarterly and annual submissions. The project owner shall designate a California Certified Water Treatment Plant Operator as well as the technical, managerial and financial requirements as prescribed by State law. The project owner shall supply updates on an annual basis of monitoring requirements, any required submittals equivalent to the County of Riverside requirements including annual renewal requirements.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRAFFIC AND TRANSPORTATION		
TRANS-1 Parking and Staging Prior to start of construction of the BSPP and all related facilities, the project owner shall develop and implement a parking and staging plan for all phases of project construction to ensure that all project-related parking occurs on-site or in designated off-site parking areas.	At least 60 days prior to start of site mobilization, the project owner shall submit the plan to the County of Riverside, and the City of Blythe for review and comment, and to the CPM for review and approval. The requirements outlined in this Condition of Certification shall be coordinated with requirements outlined in Condition of Certification **TRANS-3**.	CEC/BLM
TRANS-2 Traffic Control Plan Prior to start of construction of the Blythe Solar Power Project (BSPP) the project owner shall prepare and implement a Traffic Control Plan (TCP) for the Blythe Solar Power Project construction and operation traffic. The TCP shall address the movement of workers, vehicles, and materials, including arrival and departure schedules, and designated workforce and delivery routes. The project owner shall consult with the County of Riverside and the Department of Transportation (Caltrans) District 8 office in the preparation and implementation of the Traffic Control Plan and shall submit the proposed Traffic Control Plan to the County of Riverside and the Department of Transportation (Caltrans) District 8 office in sufficient time for review and comment and to the Energy Commission Compliance Project Manager (CPM) for review and approval prior to the proposed start of construction and implementation of the plan. The project owner shall provide a copy of any written comments from the County of Riverside and the Department of Transportation (Caltrans) District 8 office and any changes to the Traffic Control Plan to the CPM prior to the proposed start of construction. The Traffic Control Plan shall include: A work schedule and end-of-shift departure plan designed to ensure that stacking does not occur on intersections necessary to enter and exit the project sites. The project owner shall consider using one or more of the following measures designed to prevent stacking: staggered work shifts, off-peak work schedules as well as restricting travel to and departures from each project site to 10 or fewer vehicles every three minutes during peak travel hours on Interstate 10. The project owner may use any of the above traffic measures or any other measures if the project owner can demonstrate that the implemented measures would ensure that Interstate 10 operates at a Level of Service (LOS) C or higher during the peak travel hours. Provisions for an incentive program such as an employer-sponsored Commuter Check Program to encourage construction workers to carpool and/or use van or bus service. Limitation on truck deliveries to the project sites to only off-peak hours to ensure adequate exit and entry at appropriate intersections. Provisions for redirection of construction traffic with a flag person as necessary to ensure traffic safety and minimize interruptions to non-construction related traffic flow.	At least 60 calendar days prior to the start of construction, including any grading or site remediation on the power plant site or its associated easements, the project owner shall submit the proposed traffic control plan to the County of Riverside and the Department of Transportation (Caltrans) District 8 office for review and comment and to the CPM for review and approval. The project owner shall also provide the CPM with a copy of the transmittal letter to the County of Riverside and the Department of Transportation (Caltrans) District 8 office requesting review and comment. At least 30 calendar days prior to the start of construction, the project owner shall provide copies of any comment letters received from either the County of Riverside and the Department of Transportation (Caltrans) District 8 office, along with any changes to the proposed traffic control plan to the CPM for review and approval.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRAFFIC AND TRANSPORTATION (cont.)		
Placement of signage, lighting, and traffic control device at the project construction site and laydown areas. Signage along eastbound and westbound appropriate roads and at the entrance of each of the I-10 northbound and southbound off-ramps at appropriate roads notifying drivers of construction traffic throughout the duration of the construction period. A heavy-haul plan designed to address the transport and delivery of heavy and oversized loads requiring permits from Department of Transportation (Caltrans) or other state and federal agencies. Parking for workforce and construction vehicles. Emergency vehicle access to the project site.		CEC/BLM
TRANS-3 Limitations on Vehicle Size and Weight The project owner shall comply with limitations imposed by Caltrans District 8 office and other relevant jurisdictions including County of Riverside and City of Blythe on vehicle sizes and weights. In addition, the project owner or its contractor shall obtain necessary transportation permits from Caltrans and all relevant jurisdictions for use of roadways.	At least 30 calendar days prior to the start of construction, the project owner shall provide copies of permits obtained from either the County of Riverside and the Caltrans District 8 office to the CPM. In the Monthly Compliance Reports (MCRs), the project owner shall submit copies of any permits received during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.	CEC/BLM
TRANS-4 Encroachment into Public Rights of Way The project owner or its contractor shall comply with Caltrans and other relevant jurisdictions' limitations for encroachment into public rights-of-way and shall obtain necessary encroachment permits from Caltrans and all relevant jurisdictions.	In the monthly compliance reports (MCRs), the project owner shall submit copies of permits received during the reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.	CEC/BLM
TRANS-5 Restoration of All Public Roads, Easements, and Rights-of-Way The project owner shall restore all public roads, easements, and rights-of-way that have been damaged due to project-related construction activities to original or near-original condition in a timely manner, as directed by the CPM. Repairs and restoration of access roads may be required at any time during the construction phase of the project to assure safe ingress and egress. Prior to the start of site mobilization, the project owner shall consult with the County of Riverside and Caltrans District 8 and notify them of the proposed schedule for project construction. The purpose of this notification is to request that the County of Riverside and Caltrans consider postponement of public right-of-way repair or improvement activities in areas affected by project construction until construction is completed and to coordinate with the project owner regarding any concurrent construction-related activities that are planned or in progress and cannot be postponed.	At least 30 days prior to the start of mobilization, the project owner shall photograph or videotape all affected public roads, easements, and right-of-way segments and/or intersections and shall provide the CPM, the affected local jurisdictions and Caltrans (if applicable) with a copy of these images. The project owner shall rebuild, repair and maintain all public roads, easements, rights-of-way in a usable condition throughout the construction phase of the project.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRAFFIC AND TRANSPORTATION (cont.)		
	Within 60 calendar days after completion of construction, the project owner shall meet with the CPM, the County of Riverside and Caltrans District 8 to identify sections of public right-of-way to be repaired. At that time, the project owner shall establish a schedule to complete the repairs and to receive approval for the action(s). Following completion of any public right-of-way repairs, the project owner shall provide a letter signed by the County of Riverside and Caltrans District 8 stating their satisfaction with the repairs to the CPM.	
TRANS-6 The project owner shall ensure that permits and/or licenses are secured from the California Highway Patrol and Caltrans for the transport of hazardous materials.	The project owner shall include in its Monthly Compliance Reports, copies of all permits/licenses acquired by the project owner and/or subcontractors concerning the transport of hazardous substances.	CEC/BLM
TRANS-7 Prior to the start of operation, the project owner shall seek and obtain FAA approval to insert comments or notations in the appropriate Aeronautical Charts, Airport/Facilities Directories, and Notice to Airmen (NOTAM) publication, to ensure that pilots are properly notified of the location of BSPP and the possible existence of thermal plumes and glint or glare from the solar arrays.	At least 30 days prior to the start of operation of any phase of the project, the project owner shall provide documentation that the AFD, NOTAM publication has been modified accordingly.	CEC/BLM
TRANS-8 Prior to the start of operation of any phase of the project, the project owner shall prepare an Avigation Easement in accordance with Appendix D of the *California Airport Land Use Planning Handbook* and have it signed by the Bureau of Land Management.	At least 60 days prior to the start of construction, the project owner shall submit a BLM-signed avigation easement to the CPM for review and approval. Once approved by the CPM, applicant shall send the Avigation Easement to the Riverside County Land Use Commission staff for review and recording purposes. Once recorded, applicant shall send a copy of the recorded document to the CPM.	CEC/BLM
TRANS 9 To reduce glint and glare from the Project, the Project Owner shall implement the following measures during operation of any Unit. Ensure the mirrors are (1) brought out of stowage before sunrise and are aligned to catch the first rays of the morning sun; and (2) returned to stow position after sunset. Mirror function shall be continuously monitored both by operators and by system controls. The field control system shall be designed such that in all cases of a malfunctioning mirror the field control system will automatically turn a malfunctioning mirror east in a manner so that there is no reflection from the sun as the sun continues west. The Project owner shall establish and implement procedures to consistently move mirrors to the east vertical plus 1 degree if looking west and to east stow if looking east. The movement to a non glare position shall take no more than 10 minutes.	No less than 90 days prior to the start of operation of any Unit of the Project, the Project owner shall prepare and submit to the CPM for review and approval a plan describing the measures to be taken to reduce glint and glare. Upon approval, the Project owner shall implement the plan.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRAFFIC AND TRANSPORTATION (cont.)		
To the extent feasible the mirrors in the southern portion of Units 3 and 4 shall not be rotated off access during daylight hours when the azimuthal angle is east or north of east.		
TRANS-10 Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related glare complaints. The project owner or authorized agent shall: Provide copies of the Glare Complaint Resolution Form (below) to the Blythe Airport operator, along with the toll-free number required pursuant to Condition of Certification COMPLIANCE-9. Use the Complaint Resolution Form, or functionally equivalent procedure acceptable to the CPM, to document and respond to each complaint. Attempt to contact the person or persons making the complaint within 24 hours. If not contacted within 24 hours, attempt to contact the person or persons for a reasonable time period, to be determined by the CPM. Conduct an investigation to determine the source of glare related to the complaint. If the glare is project related, take all feasible measures to reduce the glare at its source. As soon as the complaint has been resolved to the complainant's satisfaction, submit to the CPM a report in which the complaint as well as the actions taken to resolve the complaint are documented. The report shall include (1) a complaint summary, including the name and address of the complainant; (2) final results of glare reduction efforts; and (3) a signed statement by the complainant, if obtainable, in which complainant states that the glare problem is resolved to his or her satisfaction.	Thirty days prior to the start of mirror installation, the project owner shall provide copies of the Glare Complaint Resolution Form to the Blythe Airport operator, along with the toll-free number required pursuant to Condition of Certification **COMPLIANCE-9**. Within five business days of receiving a glare complaint, the project owner shall file with the City of Blythe Development Services Department, the Riverside County Planning Department, the Federal Aviation Administration, the Riverside County Airport Land Use Commission, and the CPM a copy of the Glare Complaint Resolution Form, documenting the resolution of the complaint. If mitigation is required to resolve a complaint and the complaint is not resolved within three business days, the project owner shall submit an updated Glare Complaint Resolution Form when the mitigation is implemented.	CEC/BLM
TRANS-11 prior to the start of construction of the transmission line, the project owner shall submit a plan identifying measures to be taken to mark and light the lines and poles beneath runway approaches, typical pattern entry corridors, and typical departure routes pursuant to criteria included in FAAC 70/7460-1K. The plan shall identify the number and location of poles that are subject to the criteria and the exact measures to be taken to properly mark and light the poles in conformance with FAAC 70/7460.	At least 30 days prior to the start of transmission line mobilization, the project owner shall provide a construction plan for review and approval. Once the plan has been approved and implemented, the project owner shall provide documentation showing completion of the transmission line, including the required marking and lighting measures.	CEC/BLM
BIOLOGICAL RESOURCES		
BIO-1 The Project owner shall assign at least one Designated Biologist to the Project. The Project owner shall submit the resume of the proposed Designated Biologist(s), with at least three references and contact information, to the Energy Commission Compliance Project Manager (CPM) for approval in consultation with CDFG and USFWS. The Designated Biologist must meet the following minimum qualifications: 1. Bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field;	No fewer than 45 days prior to the start of site mobilization or construction-related ground disturbance, the Project Owner shall submit the names of the Designated Biologist (s) along with completed USFWS Desert Tortoise Authorized Biologist Request Form (www.fws.gov/ventura/speciesinfo/protocols_guidelines) to the USFWS and the CPM for review and final approval.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
2. Three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society; 3. Have at least one year of field experience with biological resources found in or near the Project area; 4. Meet the current USFWS Authorized Biologist qualifications criteria (www.fws.gov/ventura/speciesinfo/protocols_guidelines), demonstrate familiarity with protocols and guidelines for the desert tortoise, and be approved by the USFWS; and 5. Possess a California ESA Memorandum of Understanding pursuant to Section 2081(a) for desert tortoise. 6. In lieu of the above requirements, the resume shall demonstrate to the satisfaction of the CPM, in consultation with CDFG and USFWS, that the proposed Designated Biologist or alternate has the appropriate training and background to effectively implement the conditions of certification.	No construction-related ground disturbance, grading, boring, or trenching shall commence until an approved Designated Biologist is available to be on site. If a Designated Biologist needs to be replaced, the specified information of the proposed replacement must be submitted to the CPM at least 10 working days prior to the termination or release of the preceding Designated Biologist. In an emergency, the Project owner shall immediately notify the CPM to discuss the qualifications and approval of a short-term replacement while a permanent Designated Biologist is proposed to the CPM and for consideration.	
BIO-2 The Project owner shall ensure that the Designated Biologist performs the activities described below during any site mobilization activities, construction-related ground disturbance, grading, boring or trenching activities. The Designated Biologist may be assisted by the approved Biological Monitor(s) but remains the contact for the Project owner and the CPM. The Designated Biologist Duties shall include the following: 1. Advise the Project owner's Construction and Operation Managers on the implementation of the biological resources conditions of certification; 2. Consult on the preparation of the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) to be submitted by the Project owner; 3. Be available to supervise, conduct and coordinate mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as special-status species or their habitat; 4. Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions; 5. Inspect active construction areas where animals may have become trapped prior to construction commencing each day. At the end of the day, inspect for the installation of structures that prevent entrapment or allow escape during periods of construction inactivity. Periodically inspect areas with high vehicle activity (e.g., parking lots) for animals in harm's way; 6. Notify the Project owner and the CPM of any non-compliance with any biological resources condition of certification; 7. Respond directly to inquiries of the CPM regarding biological resource issues; 8. Maintain written records of the tasks specified above and those included in the BRMIMP. Summaries of these records shall be submitted in the Monthly Compliance Report and the Annual Compliance Report; 9. Train the Biological Monitors as appropriate, and ensure their familiarity with the BRMIMP, Worker Environmental Awareness Program (WEAP) training, and USFWS guidelines on desert tortoise surveys and handling procedures <www.fws.gov/ventura/speciesinfo/protocols_guidelines>; and	The Designated Biologist shall provide copies of all written reports and summaries that document biological resources compliance activities in the Monthly Compliance Reports submitted to the CPM. If actions may affect biological resources during operation a Designated Biologist shall be available for monitoring and reporting. During Project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report unless his or her duties cease, as approved by the CPM.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
10. Maintain the ability to be in regular, direct communication with representatives of CDFG, USFWS, and the CPM, including notifying these agencies of dead or injured listed species and reporting special-status species observations to the California Natural Diversity Data Base.		
BIO-3 The Designated Biologist shall submit the resume, at least three references, and contact information of the proposed Biological Monitors to the CPM. The resume shall demonstrate, to the satisfaction of the CPM, the appropriate education and experience to accomplish the assigned biological resource tasks. The Biological Monitor is the equivalent of the USFWS designated Desert Tortoise Monitor (USFWS 2008). Biological Monitor(s) training by the Designated Biologist shall include familiarity with the conditions of certification, BRMIMP, WEAP, and USFWS guidelines on desert tortoise surveys and handling procedures <www.fws.gov/ventura/speciesinfo/protocols_guidelines>.	The Project owner shall submit the specified information to the CPM for approval at least 30 days prior to the start of any site mobilization or construction-related ground disturbance, grading, boring and trenching. The Designated Biologist shall submit a written statement to the CPM confirming that individual Biological Monitor(s) has been trained including the date when training was completed. If additional biological monitors are needed during construction the specified information shall be submitted to the CPM and for approval at least 10 days prior to their first day of monitoring activities.	
BIO-4 The Biological Monitors shall assist the Designated Biologist in conducting surveys and in monitoring of site mobilization activities, construction-related ground disturbance, grading, boring or trenching. The Designated Biologist shall remain the contact for the Project owner and the CPM.	The Designated Biologist shall submit in the Monthly Compliance Report to the CPM and copies of all written reports and summaries that document biological resources compliance activities, including those conducted by Biological Monitors. If actions may affect biological resources during operation a Biological Monitor, under the supervision of the Designated Biologist, shall be available for monitoring and reporting. During Project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report unless their duties cease, as approved by the CPM.	
BIO-5 The Project owner's construction/operation manager shall act on the advice of the Designated Biologist and Biological Monitor(s) to ensure conformance with the biological resources conditions of certification. The Designated Biologist shall have the authority to immediately stop any activity that is not in compliance with these conditions and/or order any reasonable measure to avoid take of an individual of a listed species. If required by the Designated Biologist and Biological Monitor(s) the Project owner's construction/operation manager shall halt all site mobilization, ground disturbance, grading, boring, trenching and operation activities in areas specified by the Designated Biologist. The Designated Biologist shall: 1. Require a halt to all activities in any area when determined that there would be an unauthorized adverse impact to biological resources if the activities continued; 2. Inform the Project owner and the construction/operation manager when to resume activities; and	The Project owner shall ensure that the Designated Biologist or Biological Monitor notifies the CPM immediately (and no later than the morning following the incident, or Monday morning in the case of a weekend) of any non-compliance or a halt of any site mobilization, ground disturbance, grading, construction, and operation activities. The Project owner shall notify the CPM of the circumstances and actions being taken to resolve the problem. Whenever corrective action is taken by the Project owner, a determination of success or failure would be	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
3. Notify the CPM and if there is a halt of any activities and advise them of any corrective actions that have been taken or would be instituted as a result of the work stoppage. If the Designated Biologist is unavailable for direct consultation, the Biological Monitor shall act on behalf of the Designated Biologist.	made by the CPM within five working days after receipt of notice that corrective action is completed, or the Project owner would be notified by the CPM that coordination with other agencies would require additional time before a determination can be made.	
BIO-6 The Project owner shall develop and implement a Blythe Project-specific Worker Environmental Awareness Program (WEAP) and shall secure approval for the WEAP from the CPM. The WEAP shall be administered to all onsite personnel including surveyors, construction engineers, employees, contractors, contractor's employees, supervisors, inspectors, subcontractors, and delivery personnel. The WEAP shall be implemented during site preconstruction, construction, operation, and closure. The WEAP shall: 1. Be developed by or in consultation with the Designated Biologist and consist of an on-site or training center presentation in which supporting written material and electronic media, including photographs of protected species, is made available to all participants; 2. Discuss the locations and types of sensitive biological resources on the Project site and adjacent areas, and explain the reasons for protecting these resources; provide information to participants that no snakes, reptiles, or other wildlife shall be harmed; 3. Place special emphasis on desert tortoise, including information on physical characteristics, distribution, behavior, ecology, sensitivity to human activities, legal protection, penalties for violations, reporting requirements, and protection measures; 4. Include a discussion of fire prevention measures to be implemented by workers during Project activities; request workers dispose of cigarettes and cigars appropriately and not leave them on the ground or buried; 5. Describe the temporary and permanent habitat protection measures to be implemented at the Project site; 6. Identify whom to contact if there are further comments and questions about the material discussed in the program; and 7. Include a training acknowledgment form to be signed by each worker indicating that they received training and shall abide by the guidelines. The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist.	No fewer than 30 days prior to construction-related ground disturbance the Project owner shall provide to the CPM a copy of the final WEAP and all supporting written materials and electronic media prepared or reviewed by the Designated Biologist and a resume of the person(s) administering the program. The Project owner shall provide in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. At least 10 days prior to construction-related ground disturbance activities the Project owner shall submit two copies of the BLM- and CPM-approved final WEAP. Training acknowledgement forms signed during construction shall be kept on file by the Project owner for at least six months after the start of commercial operation. Throughout the life of the Project, the WEAP shall be repeated annually for permanent employees, and shall be routinely administered within one week of arrival to any new construction personnel, foremen, contractors, subcontractors, and other personnel potentially working within the Project area. Upon completion of the orientation, employees shall sign a form stating that they attended the program and understand all protection measures. These forms shall be maintained by the Project owner and shall be made available to the CPM and upon request. Workers shall receive and be required to visibly display a hardhat sticker or certificate that they have completed the training. During Project operation, signed statements for operational personnel shall be kept on file for six months following the termination of an individual's employment.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
BIO-7 The Project owner shall develop a Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), and shall submit two copies of the proposed BRMIMP to the BLM-Authorized Officer and the CPM for review and approval. The Project owner shall implement the measures identified in the approved BRMIMP. The BRMIMP shall incorporate avoidance and minimization measures described in final versions of the Desert Tortoise Relocation Translocation Plan, the Raven Management Plan, the Closure, Conceptual Restoration Plan, the Burrowing Owl Mitigation and Monitoring Plan, the Weed Management Plan, and all other biological mitigation and/or monitoring plans associated with the Project. The BRMIMP shall be prepared in consultation with the Designated Biologist and shall include accurate and up-to-date maps depicting the location of sensitive biological resources that require temporary or permanent protection during construction and operation. The BRMIMP shall include complete and detailed descriptions of the following: 1. All biological resources mitigation, monitoring, and compliance measures proposed and agreed to by the Project owner; 2. All biological resources conditions of certification identified as necessary to avoid or mitigate impacts; 3. All biological resource mitigation, monitoring and compliance measures required in federal agency terms and conditions, such as those provided in the USFWS Biological Opinion; 4. All sensitive biological resources to be impacted, avoided, or mitigated by Project construction, operation, and closure; 5. All required mitigation measures for each sensitive biological resource; 6. All measures that shall be taken to avoid or mitigate temporary disturbances from construction activities; 7. Duration for each type of monitoring and a description of monitoring methodologies and frequency; 8. Performance standards to be used to help decide if/when proposed mitigation is or is not successful; 9. All performance standards and remedial measures to be implemented if performance standards are not met; 10. Biological resources-related facility closure measures including a description of funding mechanism(s); 11. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval; and 12. A requirement to submit any sightings of any special-status species that are observed on or in proximity to the Project site, or during Project surveys, to the California Natural Diversity Data Base (CNDDB) per CDFG requirements.	The Project owner shall submit the final BRMIMP to the CPM at least 30 days prior to start of any preconstruction site mobilization and construction-related ground disturbance, grading, boring, and trenching. The BRMIMP shall contain all of the required measures included in all biological Conditions of Certification. No construction-related ground disturbance, grading, boring or trenching may occur prior to approval of the final BRMIMP by the CPM. If any permits have not yet been received when the BRMIMP is first submitted, these permits shall be submitted to the CPM within 5 days of their receipt, and the BRMIMP shall be revised or supplemented to reflect the permit condition within at least 10 days of their receipt by the Project owner. Ten days prior to site and related facilities mobilization the revised BRMIMP shall be resubmitted to the CPM. To verify that the extent of construction disturbance does not exceed that described in this analysis, the Project owner shall submit aerial photographs, at an approved scale, taken before and after construction to the CPM. The first set of aerial photographs shall reflect site conditions prior to any preconstruction site mobilization and construction-related ground disturbance, grading, boring, and trenching, and shall be submitted at least 60 days prior to initiation of such activities. The second set of aerial photographs shall be taken subsequent to completion of construction, and shall be submitted to the CPM no later than 90 days after completion of construction. The Project owner shall also provide a final accounting in whole acres of the areas of vegetation communities/cover types present before and after construction. Any changes to the approved BRMIMP must be approved by the CPM and in consultation with CDFG and USFWS. Implementation of BRMIMP measures (for example, construction activities that were monitored, species observed) shall be reported in the Monthly Compliance	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
	Reports by the Designated Biologist. Within 30 days after completion of Project construction, the Project owner shall provide to the CPM, for review and approval, a written construction termination report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the Project's preconstruction site mobilization and construction-related ground disturbance, grading, boring, and trenching, and which mitigation and monitoring items are still outstanding.	
BIO-8 The Project owner shall undertake the following measures to manage the construction site and related facilities in a manner to avoid or minimize impacts to biological resources: 1. Limit Disturbance Areas. The boundaries of all areas to be disturbed (including staging areas, access roads, and sites for temporary placement of spoils) shall be delineated with stakes and flagging prior to construction activities in consultation with the Designated Biologist. Spoils and topsoil shall be stockpiled in disturbed areas lacking native vegetation and which do not provide habitat for special-status species. Parking areas, staging and disposal site locations shall similarly be located in areas without native vegetation or special-status species habitat. All disturbances, Project vehicles and equipment shall be confined to the flagged areas. 2. Minimize Road Impacts. New and existing roads that are planned for construction, widening, or other improvements shall not extend beyond the flagged impact area as described above. All vehicles passing or turning around would do so within the planned impact area or in previously disturbed areas. Where new access is required outside of existing roads or the construction zone, the route shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction. 3. Minimize Traffic Impacts. Vehicular traffic during Project construction and operation shall be confined to existing routes of travel to and from the Project site, and cross country vehicle and equipment use outside designated work areas shall be prohibited. The speed limit shall not exceed 25 miles per hour within the Project area, on maintenance roads for linear facilities, or on access roads to the Project site. 4. Monitor During Construction. In areas that have not been fenced with desert tortoise exclusion fencing and cleared, the Designated Biologist shall be present at the construction site during all Project activities that have potential to disturb soil, vegetation, and wildlife. The Designated Biologist or Biological Monitor shall walk immediately ahead of equipment during brushing and grading activities. 5. Minimize Impacts of Transmission/Pipeline Alignments, Roads, Staging Areas. Staging areas for construction on the plant site shall be within the area that has been fenced with desert tortoise exclusion fencing and cleared. For construction activities outside of the plant site (transmission line, pipeline alignments) access roads, pulling sites, and storage and parking areas shall be designed, installed, and maintained with the goal of minimizing impacts to native plant communities and sensitive biological resources. Transmission lines and all electrical components shall be designed, installed, and maintained in accordance with the Avian Power Line Interaction Committee's (APLIC's) Suggested Practices for Avian Protection on Power Lines (APLIC 1994) and Mitigating Bird Collisions with Power Lines (APLIC 2004) to reduce the likelihood of large bird electrocutions and collisions.	All mitigation measures and their implementation methods shall be included in the BRMIMP and implemented. Implementation of the measures would be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of Project construction, the Project owner shall provide to BLM's Authorized Officer and the CPM, for review and approval, a written construction termination report identifying how measures have been completed. No less than 30 days following the publication of the Energy Commission License Decision or the Record of Decision/ROW Issuance, whichever comes first, the Project owner shall submit to the CPM and BLM's Authorized Officer a final agency-approved Revegetation Plan that has been reviewed and approved by BLM's Authorized Officer and the CPM. All modifications to the Revegetation Plan shall be made only after approval from BLM's Authorized Officer and the CPM. Within 30 days after completion of Project construction, the Project owner shall provide to the CPM for review and approval, a written report identifying which items of the Revegetation Plan have been completed, a summary of all modifications to mitigation measures made during the Project's construction phase, and which items are still outstanding. As part of the Annual Compliance Report, each year following construction until the completion of the revegetation monitoring specified in the Revegetation	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
6. Avoid Use of Toxic Substances. Soil bonding and weighting agents used on unpaved surfaces shall be non-toxic to wildlife and plants. 7. Minimize Lighting Impacts. Facility lighting shall be designed, installed, and maintained to prevent side casting of light towards wildlife habitat. 8. Minimize Noise Impacts. A continuous low-pressure technique shall be used for steam blows, to the extent possible, in order to reduce noise levels in sensitive habitat proximate to the Genesis Project. Loud construction activities (e.g., unsilenced high pressure steam blowing and pile driving, or other) shall be avoided from February 15 to April 15 when it would result in noise levels over 65 dBA in nesting habitat (excluding noise from passing vehicles). Loud construction activities may be permitted from February 15 to April 15 only if: a) the Designated Biologist provides documentation (i.e., nesting bird data collected using methods described in BIO-15 and maps depicting location of the nest survey area in relation to noisy construction) to the CPM indicating that no active nests would be subject to 65 dBA noise, OR b) the Designated Biologist or Biological Monitor monitors active nests within the range of construction-related noise exceeding 65 dBA. The monitoring shall be conducted in accordance with Nesting Bird Monitoring and Management Plan approved by the CPM. The Plan shall include adaptive management measures to prevent disturbance to nesting birds from construction related noise. Triggers for adaptive management shall be evidence of Project-related disturbance to nesting birds such as: agitation behavior (displacement, avoidance, and defense); increased vigilance behavior at nest sites; changes in foraging and feeding behavior, or nest site abandonment. The Bird Monitoring and Management Plan shall include a description of adaptive management actions, which shall include, but not be limited to, cessation of construction activities that are deemed by the Designated Biologist to be the source of disturbance to the nesting bird. 9. Avoid Vehicle Impacts to Desert Tortoise. Parking and storage shall occur within the area enclosed by desert tortoise exclusion fencing to the extent feasible. No vehicles or construction equipment parked outside the fenced area shall be moved prior to an inspection of the ground beneath the vehicle for the presence of desert tortoise. If a desert tortoise is observed, it would be left to move on its own. If it does not move within 15 minutes, a Designated Biologist or Biological Monitor under the Designated Biologist's direct supervision may remove and relocate the animal to a safe location if temperatures are within the range described in the USFWS' 2009 Desert Tortoise Field Manual (http://www.fws.gov/ventura/speciesinfo/protocols_guidelines 10. Avoid Wildlife Pitfalls: a) Backfill Trenches. At the end of each work day, the Designated Biologist shall ensure that all potential wildlife pitfalls (trenches, bores, and other excavations) outside the area fenced with desert tortoise exclusion fencing have been backfilled. If backfilling is not feasible, all trenches, bores, and other excavations shall be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access, or fully enclosed with desert tortoise-exclusion fencing. All trenches, bores, and other excavations outside the areas permanently fenced with desert tortoise exclusion fencing shall be inspected periodically throughout the day, at the end of each workday and at the beginning of each day by the Designated Biologist or a Biological Monitor. Should a tortoise or other wildlife become trapped, the Designated Biologist or Biological Monitor shall remove and relocate the individual as described	Plan, the Designated Biologist shall provide a report to the CPM and BLM's Authorized Officer that includes: a summary of revegetation activities for the year, a discussion of whether revegetation performance standards for the year were met; and recommendations for revegetation remedial action, if warranted, are planned for the upcoming year. If loud construction activities are proposed between February 15 to April 15 which would result in noise levels over 65 dBA in nesting habitat, the Project owner shall submit nest survey results (as described in 8a) to the CPM no more than 7 days before initiating such construction. If an active nest is detected within this survey area the Project owner shall submit a Nesting Bird Monitoring and Management Plan to the CPM for review and approval no more than 7 days before initiating noisy construction.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
in the Desert Tortoise Relocation/Translocation Plan. Any wildlife encountered during the course of construction shall be allowed to leave the construction area unharmed. b) Avoid Entrapment of Desert Tortoise. Any construction pipe, culvert, or similar structure with a diameter greater than 3 inches, stored less than 8 inches aboveground and within desert tortoise habitat (i.e., outside the permanently fenced area) for one or more nights, shall be inspected for tortoises before the material is moved, buried or capped. As an alternative, all such structures may be capped before being stored outside the fenced area, or placed on pipe racks. These materials would not need to be inspected or capped if they are stored within the permanently fenced area after the clearance surveys have been completed. 11. Minimize Standing Water. Water applied to dirt roads and construction areas (trenches or spoil piles) for dust abatement shall use the minimal amount needed to meet safety and air quality standards in an effort to prevent the formation of puddles, which could attract desert tortoises and common ravens to construction sites. A Biological Monitor shall patrol these areas to ensure water does not puddle and shall take appropriate action to reduce water application where necessary. 12. Dispose of Road-killed Animals. Road killed animals or other carcasses detected on roads near the Project area shall be picked up immediately and delivered to the Biological Monitor. For special-status species roadkill, the Biological Monitor shall contact CDFG and USFWS within 1 working day of receipt of the carcass for guidance on disposal or storage of the carcass. The Biological Monitor shall report the special-status species record as described in **BIO-11** below. 13. Minimize Spills of Hazardous Materials. All vehicles and equipment shall be maintained in proper working condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The Designated Biologist shall be informed of any hazardous spills immediately as directed in the Project Hazardous Materials Plan. Hazardous spills shall be immediately cleaned up and the contaminated soil properly disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated area. Service/maintenance vehicles shall carry a bucket and pads to absorb leaks or spills. 14. Worker Guidelines. During construction all trash and food-related waste shall be placed in self-closing containers and removed daily from the site. Workers shall not feed wildlife or bring pets to the Project site. Except for law enforcement personnel, no workers or visitors to the site shall bring firearms or weapons. Vehicular traffic shall be confined to existing routes of travel to and from the Project site, and cross country vehicle and equipment use outside designated work areas shall be prohibited. The speed limit when traveling on dirt access routes within desert tortoise habitat shall not exceed 25 miles per hour. 15. Implement Erosion Control Measures. Standard erosion control measures shall be implemented for all phases of construction and operation where sediment run-off from exposed slopes threatens to enter "Waters of the State". Sediment and other flow-restricting materials shall be moved to a location where they shall not be washed back into the stream. All disturbed soils and roads within the Project site shall be stabilized to reduce erosion potential, both during and following construction. Areas of disturbed soils (access and staging areas) with slopes toward a drainage shall be stabilized to reduce erosion potential. 16. Monitor Ground Disturbing Activities Prior to Pre-Construction Site Mobilization. If pre-construction site mobilization requires ground-disturbing activities such as for geotechnical borings or hazardous waste evaluations, a Designated Biologist or Biological Monitor shall be present to monitor any actions that could disturb soil, vegetation, or wildlife.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
17. Revegetation of Temporarily Disturbed Areas. The Project owner shall prepare and implement a Revegetation Plan to restore all areas subject to temporary disturbance to pre-Project grade and conditions. Temporarily disturbed areas within the Project area include, but are not limited to: all proposed locations for linear facilities, temporary access roads, berms, areas surrounding the drainage diffusers, construction work temporary lay-down areas, and construction equipment staging areas. The Revegetation Plan shall include a description of topsoil salvage and seeding techniques and a monitoring and reporting plan, and the following performance standards by the end of monitoring year 2: a) at least 80 percent of the species observed within the temporarily disturbed areas shall be native species that naturally occur in desert scrub habitats; and b) relative cover and density of plant species within the temporarily disturbed areas shall equal at least 60 percent.		
BIO-9 The Project owner shall undertake appropriate measures to manage the construction site and related facilities in a manner to avoid or minimize impacts to desert tortoise. Methods for clearance surveys, fence specification and installation, tortoise handling, artificial burrow construction, egg handling and other procedures shall be consistent with those described in the USFWS' 2009 Desert Tortoise Field Manual <http://www.fws.gov/ventura/speciesinfo/protocols_guidelines> or more current guidance provided by CDFG and USFWS. The Project owner shall also implement all terms and conditions described in the Biological Opinion prepared by USFWS. The Project owner shall implement the following measures: 1. Desert Tortoise Exclusion Fence Installation. To avoid impacts to desert tortoises, permanent exclusion fencing shall be installed along the permanent perimeter security fence (boundaries) as phases are constructed. Temporary fencing shall be installed along linear features or any subset of the plant site phasing that does not correspond to permanent perimeter fencing. All fencing shall be flagged and surveyed within 24 hours prior to the initiation of fence construction. Clearance surveys of the desert tortoise exclusionary fence and utility rights-of-way alignments shall be conducted by the Designated Biologist(s) using techniques outlined in the USFWS' 2009 Desert Tortoise Field Manual and may be conducted in any season with USFWS and CDFG approval. Biological Monitors may assist the Designated Biologist under his or her supervision. These fence clearance surveys shall provide 100-percent coverage of all areas to be disturbed and an additional transect along both sides of the fence line. Disturbance associated with desert tortoise exclusionary fence construction shall not exceed 30 feet on either side of the proposed fence alignment. Prior to the surveys the project owner shall provide to the CPM, CDFG and USFWS a figure clearly depicting the limits of construction disturbance for the proposed fence installation. The fence line survey area shall be 90 feet wide centered on the fence alignment. Where construction disturbance for fence line installation can be limited to 15 feet on either side of the fence line, this fence line survey area may be reduced to an area approximately 60 feet wide centered on the fence alignment.. Transects shall be no greater than 15 feet apart. All desert tortoise burrows, and burrows constructed by other species that might be used by desert tortoises, shall be examined to assess occupancy of each burrow by desert tortoises and handled in accordance with the USFWS' 2009 Desert Tortoise Field Manual. Any desert tortoise located during fence clearance surveys shall be handled by the Designated Biologist(s) in accordance with the USFWS' 2009 Desert Tortoise Field Manual. a) Timing, Supervision of Fence Installation. The exclusion fencing shall be installed in any area subject to disturbance prior to the onset of site clearing and grubbing in that area. The fence installation shall be supervised by the Designated Biologist and monitored by the Biological Monitors to ensure the safety of any tortoise present.	All mitigation measures and their implementation methods shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of desert tortoise clearance surveys the Designated Biologist shall submit a report to BLM's Authorized Officer, the CPM, USFWS, and CDFG describing implementation of each of the mitigation measures listed above. The report shall include the desert tortoise survey results, capture and release locations of any relocated desert tortoises, and any other information needed to demonstrate compliance with the measures described above.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
b) Fence Material and Installation. All desert tortoise exclusionary fencing shall be constructed in accordance with the USFWS' 2009 Desert Tortoise Field Manual (Chapter 8 – Desert Tortoise Exclusion Fence). c) Security Gates. Security gates shall be designed with minimal ground clearance to deter ingress by tortoises. The gates may be electronically activated to open and close immediately after the vehicle(s) have entered or exited to prevent the gates from being kept open for long periods of time. d) Fence Inspections. Following installation of the desert tortoise exclusion fencing for both the permanent site fencing and temporary fencing in the utility corridors, the fencing shall be regularly inspected. If tortoise were moved out of harm's way during fence construction, permanent and temporary fencing shall be inspected at least two times a day for the first 7 days to ensure a recently moved tortoise has not been trapped within the fence. Thereafter, permanent fencing shall be inspected monthly and during and within 24 hours following all major rainfall events. A major rainfall event is defined as one for which flow is detectable within the fenced drainage. Any damage to the fencing shall be temporarily repaired immediately to keep tortoises out of the site, and permanently repaired within 48 hours of observing damage. Inspections of permanent site fencing shall occur for the life of the Project. Temporary fencing shall be inspected weekly and, where drainages intersect the fencing, during and within 24 hours following major rainfall events. All temporary fencing shall be repaired immediately upon discovery and, if the fence may have permitted tortoise entry while damaged, the Designated Biologist shall inspect the area for tortoise. 2. Desert Tortoise Clearance Surveys within the Plant Site. Clearance surveys shall be conducted in accordance with the USFWS' 2009 Desert Tortoise Field Manual (Chapter 6 – Clearance Survey Protocol for the Desert Tortoise – Mojave Population) and shall consist of two surveys covering 100 percent the Project area by walking transects no more than 15-feet apart. If a desert tortoise is located on the second survey, a third survey shall be conducted. Each separate survey shall be walked in a different direction to allow opposing angles of observation. Clearance surveys for non-linear areas of Phase 1A may be conducted outside the active season. Clearance surveys of the remaining portions of the power plant site may only be conducted when tortoises are most active (April through May or September through October). Clearance surveys of linear features may be conducted during anytime of the year. Surveys outside of the active season in areas other than Phase 1A require approval by USFWS and CDFG. Any tortoise located during clearance surveys of the power plant site and linear features shall be relocated and monitored in accordance with the Desert Tortoise Relocation/Translocation Plan: a) Burrow Searches. During clearance surveys all desert tortoise burrows, and burrows constructed by other species that might be used by desert tortoises, shall be examined by the Designated Biologist, who may be assisted by the Biological Monitors, to assess occupancy of each burrow by desert tortoises and handled in accordance with the USFWS' 2009 Desert Tortoise Field Manual. To prevent reentry by a tortoise or other wildlife, all burrows shall be collapsed once absence has been determined. Tortoises taken from burrows and from elsewhere on the power plant site shall be relocated or translocated as described in the Desert Tortoise Relocation/Translocation Plan. b) Burrow Excavation/Handling. All potential desert tortoise burrows located during clearance surveys would be excavated by hand, tortoises removed, and collapsed or blocked to prevent occupation by desert tortoises. All desert tortoise handling and removal, and burrow excavations, including nests, would be conducted by the Designated Biologist, who may be assisted by a Biological Monitor in accordance with the USFWS' 2009 Desert Tortoise Field Manual. 3. Monitoring Following Clearing. Following the desert tortoise clearance and removal from the power plant site and utility corridors, workers and heavy equipment shall be allowed to enter the Project site to perform clearing, grubbing, leveling, and trenching. A Designated Biologist shall monitor clearing and grading activities to find and move tortoises missed		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
during the initial tortoise clearance survey. Should a tortoise be discovered, it shall be relocated or translocated as described in the Desert Tortoise Relocation/Translocation Plan. 4. Reporting. The Designated Biologist shall record the following information for any desert tortoises handled: a) the locations (narrative and maps) and dates of observation; b) general condition and health, including injuries, state of healing and whether desert tortoise voided their bladders; c) location moved from and location moved to (using GPS technology); d) gender, carapace length, and diagnostic markings (i.e., identification numbers or marked lateral scutes); e) ambient temperature when handled and released; and f) digital photograph of each handled desert tortoise as described in the paragraph below. Desert tortoise moved from within Project areas shall be marked and monitored in accordance with the Desert Tortoise Relocation/Translocation Plan.		
BIO-10 The Project owner shall develop and implement a final Desert Tortoise Relocation/Translocation Plan (Plan) that is consistent with current USFWS approved guidelines, and meets the approval of the CPM. The Plan shall include guidance specific to each of the three phases of Project construction, as described in **BIO-28** (Phasing), and shall include measures to minimize the potential for repeated translocations of individual desert tortoises. The final Plan shall be based on the draft Desert Tortoise Relocation/Translocation Plan prepared by the Applicant (AECOM 2010t) and shall include all revisions deemed necessary by BLM, USFWS, CDFG and the Energy Commission staff.	No fewer than 30 days prior to site mobilization the Project owner shall provide BLM's Authorized Officer and the CPM with the final version of a Desert Tortoise Relocation/Translocation Plan that has been reviewed and approved by BLM's Authorized Office and the CPM in consultation with USFWS and CDFG. All modifications to the approved Plan shall be made only after approval by BLM's Authorized Officer and the CPM, in consultation with USFWS and CDFG. Within 30 days after initiation of relocation and/or translocation activities, the Designated Biologist shall provide to BLM's Authorized Officer and the CPM for review and approval, a written report identifying which items of the Plan have been completed, and a summary of all modifications to measures made during implementation of the Plan.	
BIO-11 The Project owner shall provide Energy Commission and BLM staff with reasonable access to the Project site and compensation lands under the control of the Project owner and shall otherwise fully cooperate with the Energy Commission's and BLM's efforts to verify the Project owner's compliance with, or the effectiveness of, mitigation measures set forth in the conditions of certification. The Designated Biologist shall do all of the following: 1. Notification. Notify the CPM and at least 14 calendar days before initiating construction-related ground disturbance activities; immediately notify the CPM in writing if the Project owner is not in compliance with any conditions of certification, including but not limited to any actual or anticipated failure to implement mitigation measures within the time periods specified in the conditions of certification; 2. Monitoring During Grubbing and Grading. Remain onsite daily while vegetation salvage, grubbing, grading and other ground-disturbance construction activities are taking place to avoid or minimize take of listed species, to check for compliance with all impact avoidance and minimization measures, and to check all exclusion zones to ensure that signs, stakes, and fencing are intact and that human activities are restricted in these protective zones.	No later than 2 days following the above required notification of a sighting, kill, or relocation of a listed species, the Project owner shall deliver to the CPM, CDFG, and USFWS via FAX or electronic communication the written report from the Designated Biologist describing all reported incidents of injury, kill, or relocation of a listed species, identifying who was notified, and explaining when the incidents occurred. In the case of a sighting in an active construction area, the Project owner shall, at the same time, submit a map (e.g., using Geographic Information Systems) depicting both the limits of construction and sighting location to the CPM, CDFG and USFWS.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
3. Monthly Compliance Inspections. Conduct compliance inspections at a minimum of once per month after clearing, grubbing, and grading are completed and submit a monthly compliance report to the CPM, USFWS and CDFG during construction, as required under **Compliance-6**. 4. Notification of Injured, Dead, or Relocated Listed Species. In the event of a sighting in an active construction area (e.g., with equipment, vehicles, or workers), injury, kill, or relocation of any listed species, the CPM, CDFG, and USFWS shall be notified immediately by phone. Notification shall occur no later than noon on the business day following the event if it occurs outside normal business hours so that the agencies can determine if further actions are required to protect listed species. Written follow-up notification via FAX or electronic communication shall be submitted to these agencies within two calendar days of the incident and include the following information as relevant: a) Injured Desert Tortoise. If a desert tortoise is injured as a result of Project-related activities during construction, the Designated Biologist shall immediately take it to a CDFG-approved wildlife rehabilitation and/or veterinarian clinic. Any veterinarian bills for such injured animals shall be paid by the Project owner. Following phone notification as required above, the CPM, CDFG, and USFWS shall determine the final disposition of the injured animal, if it recovers. Written notification shall include, at a minimum, the date, time, location, circumstances of the incident, and the name of the facility where the animal was taken. b) Desert Tortoise Fatality. If a desert tortoise is killed by Project-related activities during construction or operation, submit a written report with the same information as an injury report. These desert tortoises shall be salvaged according to guidelines described in Salvaging Injured, Recently Dead, Ill, and Dying Wild, Free-Roaming Desert Tortoise (Berry 2001). The Project owner shall pay to have the desert tortoises transported and necropsied. The report shall include the date and time of the finding or incident. 5. Stop Work Order. The CPM may issue the Project owner a written stop work order to suspend any activity related to the construction or operation of the Project to prevent or remedy a violation of one or more conditions of certification (including but not limited to failure to comply with reporting, monitoring, or habitat acquisition obligations) or to prevent the illegal take of an endangered, threatened, or candidate species. The Project owner shall comply with the stop work order immediately upon receipt thereof.	No later than 45 days after initiation of Project operation the Designated Biologist shall provide the CPM a Final Listed Species Mitigation Report that includes, at a minimum: 1) a copy of the table in the BRMIMP with notes showing when each of the mitigation measures was implemented; 2) all available information about Project-related incidental take of listed species; 3) information about other Project impacts on the listed species; 4) construction dates; 5) an assessment of the effectiveness of conditions of certification in minimizing and compensating for Project impacts; 6) recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future Projects on the listed species; and 7) any other pertinent information, including the level of take of the listed species associated with the Project.	
BIO-12 To fully mitigate for habitat loss and potential take of desert tortoise, the Project owner shall provide compensatory mitigation at a 1:1 ratio for impacts to 6,958 acres, adjusted to reflect the final Project footprint. For purposes of this condition, the Project footprint means all lands disturbed in the construction and operation of the Blythe Project, including all linears, as well as undeveloped areas inside the Project's boundaries that will no longer provide viable long-term habitat for the desert tortoise. To satisfy this condition, the Project owner shall acquire, protect and transfer 1 acre of desert tortoise habitat for every acre of habitat within the final Project footprint, and provide associated funding for the acquired lands, as specified below. Condition **BIO-27** may provide the Project owner with another option for satisfying some or all of the requirements in this condition. In lieu of acquiring lands itself, the Project owner may satisfy the requirements of this condition by depositing funds into the Renewable Energy Action Team (REAT) Account established with the National Fish and Wildlife Foundation (NFWF), as provided below in section 3.i. of this condition. The timing of the mitigation shall correspond with the timing of the site disturbance activities as stated in BIO-28 (phasing). If compensation lands are acquired in fee title or in easement, the requirements for acquisition, initial improvement and long-term management of compensation lands include all of the following:	If the mitigation actions required under this condition are not completed prior to the start of ground-disturbing activities, the Project owner shall provide the CPM and CDFG with an approved form of Security in accordance with this condition of certification no later than 30 days prior to beginning Project ground-disturbing activities. Actual Security shall be provided no later than 7 days prior to the beginning of Project ground-disturbing activities. If Security is provided, the Project owner, or an approved third party, shall complete and provide written verification to the CPM, CDFG, BLM and USFWS of the compensation lands acquisition and transfer within 18 months of the start of Project ground-disturbing activities.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
1. Selection Criteria for Compensation Lands. The compensation lands selected for acquisition in fee title or in easement shall: a) be within the Colorado Desert Recovery Unit, with potential to contribute to desert tortoise habitat connectivity and build linkages between desert tortoise designated critical habitat, known populations of desert tortoise, and/or other preserve lands; b) provide habitat for desert tortoise with capacity to regenerate naturally when disturbances are removed; c) be prioritized near larger blocks of lands that are either already protected or planned for protection, or which could feasibly be protected long-term by a public resource agency or a non-governmental organization dedicated to habitat preservation; d) be connected to lands with desert tortoise habitat equal to or better quality than the Project Site, ideally with populations that are stable, recovering, or likely to recover; e) not have a history of intensive recreational use or other disturbance that does not have the capacity to regenerate naturally when disturbances are removed or might make habitat recovery and restoration infeasible; f) not be characterized by high densities of invasive species, either on or immediately adjacent to the parcels under consideration, that might jeopardize habitat recovery and restoration; g) not contain hazardous wastes that cannot be removed to the extent that the site could not provide suitable habitat; and h) have water and mineral rights included as part of the acquisition, unless the CPM, in consultation with CDFG, BLM and USFWS, agrees in writing to the acceptability of land. 2. Review and Approval of Compensation Lands Prior to Acquisition. The Project owner shall submit a formal acquisition proposal to the CPM, CDFG, USFWS, and BLM describing the parcel(s) intended for purchase. This acquisition proposal shall discuss the suitability of the proposed parcel(s) as compensation lands for desert tortoise in relation to the criteria listed above. Approval from the CPM and CDFG, in consultation with BLM and the USFWS, shall be required for acquisition of all compensatory mitigation parcels. 3. Compensation Lands Acquisition Requirements. The Project owner shall comply with the following requirements relating to acquisition of the compensation lands after the CPM and CDFG, in consultation with BLM and the USFWS, have approved the proposed compensation lands: a) Preliminary Report. The Project owner, or approved third party, shall provide a recent preliminary title report, initial hazardous materials survey report, biological analysis, and other necessary or requested documents for the proposed compensation land to the CPM and CDFG. All documents conveying or conserving compensation lands and all conditions of title are subject to review and approval by the CPM and CDFG, in consultation with BLM and the USFWS. For conveyances to the State, approval may also be required from the California Department of General Services, the Fish and Game Commission and the Wildlife Conservation Board. b) Title/Conveyance. The Project owner shall transfer fee title to the compensation lands, a conservation easement over the lands, or both fee title and conservation easement as required by the CPM and CDFG. Transfer of either fee title or an approved conservation easement will usually be sufficient, but some situations, e.g., the donation of lands	The Project owner may elect to fund the acquisition and initial improvement of compensation lands through NFWF or other approved third party by depositing funds for that purpose into NFWF's REAT Account. Initial deposits for this purpose must be made in the same amounts as the Security required in section 3.h. of this condition. Payment of the initial funds for acquisition and initial improvement must be made at least 30 days prior to the start of ground-disturbing activities. No fewer than 90 days prior to acquisition of the property, the Project owner shall submit a formal acquisition proposal to the CPM, CDFG, USFWS, and BLM describing the parcels intended for purchase and shall obtain approval from the CPM and CDFG prior to the acquisition. No fewer than 30 days after acquisition of the property the Project owner shall deposit the funds required by Section 3e above (long term management and maintenance fee) and provide proof of the deposit to the CPM. The Project owner, or an approved third party, shall provide the CPM, CDFG, BLM and USFWS with a management plan for the compensation lands within180 days of the land or easement purchase, as determined by the date on the title. The CPM shall review and approve the management plan, in consultation with CDFG, BLM and the USFWS. Within 90 days after completion of all project related ground disturbance, the Project owner shall provide to the CPM, CDFG, BLM and USFWS an analysis, based on aerial photography, with the final accounting of the amount of habitat disturbed during Project construction. This shall be the basis for the final number of acres required to be acquired.	

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burdened by a conservation easement to BLM, will require that both types of transfers be completed. Any transfer of a conservation easement or fee title must be to CDFG, a non-profit organization qualified to hold title to and manage compensation lands (pursuant to California Government Code section 65965), or to BLM under terms approved by the CPM and CDFG. If an approved non-profit organization holds title to the compensation lands, a conservation easement shall be recorded in favor of CDFG in a form approved by CDFG. If an approved non-profit holds a conservation easement, CDFG shall be named a third party beneficiary. c) Initial Habitat Improvement Fund. The Project owner shall fund the initial protection and habitat improvement of the compensation lands. Alternatively, a non-profit organization may hold the habitat improvement funds if it is qualified to manage the compensation lands (pursuant to California Government Code section 65965) and if it meets the approval of CDFG and the CPM. If CDFG takes fee title to the compensation lands, the habitat improvement fund must be paid to CDFG or its designee. d) Property Analysis Record. Upon identification of the compensation lands, the Project owner shall conduct a Property Analysis Record (PAR) or PAR-like analysis to establish the appropriate long-term maintenance and management fee to fund the in-perpetuity management of the acquired mitigation lands. e) Long-term Maintenance and Management Fund. In accordance with BIO-28 (phasing), the Project owner shall deposit in NFWF's REAT Account a non-wasting capital long-term maintenance and management fee in the amount determined through the Property Analysis Record (PAR) or PAR-like analysis conducted for the compensation lands. The CPM, in consultation with CDFG, may designate another non-profit organization to hold the long-term maintenance and management fee if the organization is qualified to manage the compensation lands in perpetuity. If CDFG takes fee title to the compensation lands, CDFG shall determine whether it will hold the long-term management fee in the special deposit fund, leave the money in the REAT Account, or designate another entity to manage the long-term maintenance and management fee for CDFG and with CDFG supervision. f) Interest, Principal, and Pooling of Funds. The Project owner, the CPM and CDFG shall ensure that an agreement is in place with the long-term maintenance and management fee holder/manager to ensure the following conditions: i. Interest. Interest generated from the initial capital long-term maintenance and management fee shall be available for reinvestment into the principal and for the long-term operation, management, and protection of the approved compensation lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action approved by CDFG designed to protect or improve the habitat values of the compensation lands. ii. Withdrawal of Principal. The long-term maintenance and management fee principal shall not be drawn upon unless such withdrawal is deemed necessary by the CDFG or the approved third-party long-term maintenance and management fee manager to ensure the continued viability of the species on the compensation lands. If CDFG takes fee title to the compensation lands, monies received by CDFG pursuant to this provision shall be deposited in a special deposit fund established solely for the purpose to manage lands in perpetuity unless CDFG designates NFWF or another entity to manage the long-term maintenance and management fee for CDFG. iii. Pooling Long-Term Maintenance and Management Fee Funds. CDFG, or a CPM-and CDFG-approved non-profit organization qualified to hold long-term maintenance and management fees solely for the purpose to manage lands in perpetuity, may pool the endowment with other endowments for the operation, management,		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
and protection of the compensation lands for local populations of desert tortoise. However, for reporting purposes, the long-term maintenance and management fee fund must be tracked and reported individually to the CDFG and CPM. g) Other expenses. In addition to the costs listed above, the Project owner shall be responsible for all other costs related to acquisition of compensation lands and conservation easements, including but not limited to title and document review costs, expenses incurred from other state agency reviews, and overhead related to providing compensation lands to CDFG or an approved third party; escrow fees or costs; environmental contaminants clearance; and other site cleanup measures. h) Mitigation Security. The Project owner shall provide financial assurances in accordance with **BIO-28** (phasing) to the CPM and CDFG with copies of the document(s) to BLM and the USFWS, to guarantee that an adequate level of funding is available to implement the mitigation measures described in this condition. These funds shall be used solely for implementation of the measures associated with the Project in the event the Project owner fails to comply with the requirements specified in this condition, or shall be returned to the Project owner upon successful compliance with the requirements in this condition. The CPM's or CDFG's use of the security to implement measures in this condition may not fully satisfy the Project owner's obligations under this condition. Financial assurance can be provided to the CPM and CDFG in the form of an irrevocable letter of credit, a pledged savings account or another form of security ("Security"). Prior to submitting the Security to the CPM, the Project owner shall obtain the CPM's and CDFG's approval, in consultation with BLM and the USFWS, of the form of the Security. Security shall be provided in the amounts calculated as follows: i. land acquisition costs for compensation land, calculated at $500/acre. ii. initial protection and improvement activities on the compensation land, calculated at $330/acre. iii. Long term maintenance and management fee, calculated at $1,450 an acre. Security required for Phase 1A equals $1,753,320. Security required for Phase 1B equals $6,828,600. Security required for Phase 2 equals $7,280,040. The amount of security shall be adjusted for any change in the Project footprints for each phase as described above. i. The Project owner may elect to fund the acquisition and initial improvement of compensation lands through NFWF by depositing funds for that purpose into NFWF's REAT Account. Initial deposits for this purpose must be made in the same amounts as the security required in section 3.h., above, and may be provided in lieu of security. If this option is used for the acquisition and initial improvement, the Project owner shall make an additional deposit into the REAT Account if necessary to cover the actual acquisition costs and administrative costs and fees of the compensation land purchase once land is identified and the actual costs are known. If the actual costs for acquisition and administrative costs and fees are less than $500 an acre, the excess money deposited in the REAT Account shall be returned to the Project owner. Money deposited for the initial protection and improvement of the compensation lands shall not be returned to the Project owner. The responsibility for acquisition of compensation lands may be delegated to a third party other than NFWF, such as a non-governmental organization supportive of desert habitat conservation, by written agreement of the Energy Commission and		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
CDFG. Such delegation shall be subject to approval by the CPM and CDFG, in consultation with BLM and USFWS, prior to land acquisition, initial protection or maintenance and management activities. Agreements to delegate land acquisition to an approved third party, or to manage compensation lands, shall be implemented with 18 months of the Energy Commission's approval.		
BIO-13 The Project owner shall implement a Raven Monitoring and Control Plan that is consistent with the most current USFWS-approved raven management guidelines, and which meets the approval of BLM's Authorized Officer and the CMP, in consultation with USFWS and CDFG. The draft Common Raven Management Plan submitted by the Applicant (AECOM 10a, Attachment DR-BIO-49) shall provide the basis for the final plan, subject to review, revisions and approval from BLM's Authorized Office, the CPM, CDFG and USFWS. The Common Raven Monitoring and Control Plan shall include but not be limited to a program to monitor raven presence in the Project vicinity, determine if raven numbers are increasing, and to implement raven control measures as needed based on that monitoring. The purpose of the plan is to avoid any Project-related increases in raven numbers during construction, operation, and decommissioning. In addition to monitoring at the Project site, the Plan shall address raven monitoring and control at the new water source proposed in the McCoy Mountains in staff's proposed Condition of Certification **BIO-21**.The Project owner shall also provide funding for implementation of the USFWS Regional Raven Management Program, as described below. 1. The Raven Plan shall: a) Identify conditions associated with the Project that might provide raven subsidies or attractants; b) Describe management practices to avoid or minimize conditions that might increase raven numbers and predatory activities; c) Describe control practices for ravens; d) Establish thresholds that would trigger implementation of control practices; e) Address monitoring and nest removal during construction and for the life of the Project, and; f) Discuss reporting requirements. 2. USFWS Regional Raven Management Program. The Project owner shall submit payment to the project sub-account of the REAT Account held by the National Fish and Wildlife Foundation (NFWF) to support the USFWS Regional Raven Management Program. The one time fee shall be as described in the cost allocation methodology (Exhibit ___, Renewable Energy Development And Common Raven Predation on the Desert Tortoise – Summary, dated May 2010; Cost Allocation Methodology for Implementation of the Regional Raven Management Plan, dated July 9, 2010) or more current guidance as provided by USFWS or CDFG.	No less than 10 days prior to start of any Project-related ground disturbance activities, the Project owner shall provide BLM's Authorized Officer, the CPM, USFWS, and CDFG with the final version of a Common Raven Management Plan. The CPM and BLM's Authorized Officer would determine the plan's acceptability within 15 days of receipt of the final plan. All modifications to the approved Raven Management Plan shall be made only with approval of BLM's Authorized Officer and CPM in consultation with USFWS and CDFG. Within 30 days after completion of Project construction, the Project owner shall provide to the CPM for review and approval, a written report identifying which items of the Raven Monitoring and Control Plan have been completed, a summary of all modifications to mitigation measures made during the Project's construction phase, and which items are still outstanding. As part of the annual compliance report, each year following construction the Designated Biologist shall provide a report to the CPM and BLM's Authorized Officer that includes: a summary of the results of raven management and control activities for the year; a discussion of whether raven control and management goals for the year were met; and recommendations for raven management activities for the upcoming year.	
BIO-14 The Project owner shall implement a Weed Management Plan that meets the approval of the CPM. The objective of the Weed Management Plan shall be to prevent the introduction of any new weeds and the spread of existing weeds as a result of Project construction, operation, and decommissioning. The Weed Management Plan shall include at a minimum the following information: specific weed management objectives and measures for each target non-native weed species; baseline conditions; a map of the Weed Management Areas; weed risk assessment and measures to prevent the introduction and spread of weeds; monitoring and surveying methods; and reporting requirements. The draft Weed Management Plan	No less than 10 days prior to start of any Project-related ground disturbance activities, the Project owner shall provide the CPM with the final version of a Weed Management Plan that has been reviewed and approved by BLM, and Energy Commission staff, USFWS, and CDFG. Modifications to the approved	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
submitted by the Applicant (AECOM 2010a, Attachment DR-BIO-97) shall provide the basis for the final plan, subject to review and revisions from the CPM.	Weed Control Plan shall be made only after consultation with the Energy Commission staff, BLM, USFWS, and CDFG. Within 30 days after completion of Project construction, the Project owner shall provide to the CPM for review and approval, a written report identifying which items of the Weed Management Plan have been completed, a summary of all modifications to mitigation measures made during the Project's construction phase, and which items are still outstanding. As part of the annual compliance report, each year following construction the Designated Biologist shall provide a report to the CPM that includes: a summary of the results of noxious weeds surveys and management activities for the year; a discussion of whether weed management goals for the year were met; and recommendations for weed management activities for the upcoming year.	
BIO-15 The Project owner shall prepare and implement an Avian Protection Plan to monitor the death and injury of birds from collisions with facility features such as transmission lines, reflective mirror-like surfaces and from heat, and bright light from concentrating sunlight. The monitoring data shall be used to inform an adaptive management program that would avoid and minimize Project-related avian impacts. The study design shall be approved by the CPM in consultation with CDFG and USFWS, and shall be incorporated into the Project's BRMIMP and implemented. The Avian Protection Plan shall include detailed specifications on data and carcass collection protocol and a rationale justifying the proposed schedule of carcass searches. The plan shall also include seasonal trials to assess bias from carcass removal by scavengers as well as searcher bias.	No fewer than 30 days prior to commercial operation of any of the power plant units, the Project owner shall submit to the CPM, USFWS, and CDFG a final Avian Protection Plan. Modifications to the Avian Protection Plan shall be made only after approval from BLM's Authorized Officer and the CPM. For one year following the beginning of power plant operation the Designated Biologist shall submit quarterly reports to the CPM, CDFG, and USFWS describing the dates, durations, and results of monitoring. The quarterly reports shall provide a detailed description of any Project-related bird or wildlife deaths or injuries detected during the monitoring study or at any other time, and describe adaptive management measures implemented to avoid or minimize deaths or injuries. Following the completion of the fourth quarter of monitoring the Designated Biologist shall prepare an Annual Report that summarizes the year's data, analyzes any Project-related bird fatalities or injuries detected, and provides recommendations for future monitoring and any	

TABLE G-1 (Continued) CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
	adaptive management actions needed. The Annual Report shall be provided to the CPM, CDFG, and USFWS. Quarterly reporting shall continue until the CPM, in consultation with CDFG and USFWS determine whether more years of monitoring are needed, and whether mitigation and adaptive management measures are necessary.	
BIO-16 Pre-construction nest surveys shall be conducted if construction activities would occur from February 1 through July 31. The Designated Biologist or Biological Monitor conducting the surveys shall be experienced bird surveyors familiar with standard nest-locating techniques such as those described in Martin and Guepel (1993). The goal of the nesting surveys shall be to identify the general location of the nest sites, sufficient to establish a protective buffer zone around the potential nest site, and need not include identification of the precise nest locations. Surveyors performing nest surveys shall not concurrently be conducting desert tortoise surveys. The bird surveyors shall perform surveys in accordance with the following guidelines: 1. Surveys shall cover all potential nesting habitat areas that could be disturbed by each phase of construction, as described in BIO-28 (Phasing). Surveys shall also include areas within 500 feet of the boundaries of the active construction areas (including linear facilities); 2. At least two pre-construction surveys shall be conducted, separated by a minimum 10-day interval. One of the surveys shall be conducted within a 14-day period preceding initiation of construction activity. Additional follow-up surveys may be required if periods of construction inactivity exceed three weeks, an interval during which birds may establish a nesting territory and initiate egg laying and incubation; 3. If active nests or suspected active nests are detected during the survey, a buffer zone (protected area surrounding the nest, the size of which is to be determined by the Designated Biologist in consultation with CDFG) and monitoring plan shall be developed. Nest locations shall be mapped and submitted, along with a report stating the survey results, to the CPM; and 4. The Designated Biologist shall monitor the nest until he or she determines that nestlings have fledged and dispersed; activities that might, in the opinion of the Designated Biologist, disturb nesting activities, shall be prohibited within the buffer zone until such a determination is made.	At least 10 days prior to the start of any Project-related ground disturbance activities, the Project owner shall provide the CPM a letter-report describing the findings of the pre-construction nest surveys, including the time, date, and duration of the survey; identity and qualifications of the surveyor (s); and a list of species observed. If active or suspected active nests are detected during the survey, the report shall include a map or aerial photo identifying the location of the nest or suspected nest location and shall depict the boundaries of the no-disturbance buffer zone around the nest(s) that would be avoided during Project construction.	
BIO-17 To avoid direct impacts to American badgers and desert kit fox, pre-construction surveys shall be conducted for these species concurrent with the desert tortoise surveys. Surveys shall be conducted as described below: 1. Biological Monitors shall perform pre-construction surveys for badger and kit fox dens in the Project disturbance area, including a 20 foot swath beyond the disturbed area, utility corridors, and access roads. If dens are detected each den shall be classified as inactive, potentially active, or definitely active. 2. Inactive dens that would be directly impacted by construction activities shall be excavated by hand and backfilled to prevent reuse by badgers or kit fox.	The Project owner shall submit a report to the CPM and CDFG within 30 days of completion of badger and kit fox surveys. The report shall describe survey methods, results, impact avoidance and minimization measures implemented, and the results of those measures.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
3. Potentially and definitely active dens that would be directly impacted by construction activities shall be monitored by the Biological Monitor for three consecutive nights using a tracking medium (such as diatomaceous earth or fire clay) and/or infrared camera stations at the entrance. 4. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den shall be excavated and backfilled by hand. 5. If tracks are observed, the den shall be progressively blocked with natural materials (rocks, dirt, sticks, and vegetation piled in front of the entrance) for the next three to five nights to discourage the badger or kit fox from continued use. After verification that the den is unoccupied it shall then be excavated and backfilled by hand to ensure that no badgers or kit fox are trapped in the den. BLM approval may be required prior to release of badgers on public lands.		
BIO-18 The Project owner shall implement the following measures to avoid, minimize and offset impacts to burrowing owls: 1. Pre-Construction Surveys. The Designated Biologist or Biological Monitor shall conduct pre-construction surveys for burrowing owls no more than 30 days prior to initiation of construction activities. Surveys shall be focused exclusively on detecting burrowing owls, and shall be conducted from two hours before sunset to one hour after or from one hour before to two hours after sunrise. The survey area shall include the Project Disturbance Area and surrounding 500 foot survey buffer for each phase of construction in accordance with BIO-28 (phasing). 2. Implement Burrowing Owl Mitigation Plan. The Project owner shall implement measures described in the final Burrowing Owl Mitigation Plan. The final Burrowing Owl Mitigation Plan shall be approved by BLM's Authorized Officer and the CPM, in consultation with USFWS and CDFG, and shall: a) identify suitable sites within 1 mile of the Project Disturbance Areas for creation or enhancement of burrows prior to passive relocation efforts; b) provide guidelines for creation or enhancement of at least two natural or artificial burrows per relocated owl; c) provide detailed methods and guidance for passive relocation of burrowing owls occurring within the Project Disturbance Area; and d) describe monitoring and management of the passive relocation effort, including the created or enhanced burrow location and the project area where WBO were relocated from and provide a reporting plan. 3. Implement Avoidance Measures. If an active burrowing owl burrow is detected within 500 feet from the Project Disturbance Area the following avoidance and minimization measures shall be implemented: a) Establish Non-Disturbance Buffer. Fencing shall be installed at a 250-foot radius from the occupied burrow to create a non-disturbance buffer around the burrow. The non-disturbance buffer and fence line may be reduced to 160 feet if all Project-related activities that might disturb burrowing owls would be conducted during the non-breeding season (September 1st through January 31st). Signs shall be posted in English and Spanish at the fence line indicating no entry or disturbance is permitted within the fenced buffer. b) Monitoring: If construction activities would occur within 500 feet of the occupied burrow during the nesting season (February 1 – August 31st) the Designated Biologist or Biological Monitor shall monitor to determine if these activities	If pre-construction surveys detect burrowing owls within 500 feet of proposed construction activities, at least 10 days prior to the start of any Project-related site disturbance activities the Designated Biologist shall provide to the CPM and BLM's Authorized Officer documentation indicating that non-disturbance buffer fencing has been installed. The Project owner shall report monthly to BLM's Authorized Office, the CPM, CDFG and USFWS for the duration of construction on the implementation of burrowing owl avoidance and minimization measures. Within 30 days after completion of construction the Project owner shall provide to the CDFG and CPM a report identifying how mitigation measures described in the plan have been completed. If pre-construction surveys detect burrowing owls within the Project Disturbance Area and relocation of the owls is required, the Project owner shall do the following: a) Within 30 days of completion of the burrowing owl pre-construction surveys, submit to BLM's Authorized Officer, the CPM, CDFG and USFWS a Burrowing Owl Mitigation Plan. b) No less than 90 days prior to acquisition of the burrowing owl compensation lands, the Project owner, or an approved third party, shall submit a formal acquisition proposal to the CPM, BLM's Authorized Officer, CDFG, and USFWS describing the parcels intended for purchase. At the same	

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have potential to adversely affect nesting efforts, and shall make recommendations to minimize or avoid such disturbance. 4. Acquire 39 Acres of Burrowing Owl Habitat. The Project owner shall acquire, in fee or in easement 39 acres of land suitable to support a resident population of burrowing owls and shall provide funding for the enhancement and long-term management of these compensation lands. The responsibilities for acquisition and management of the compensation lands may be delegated by written agreement to CDFG or to a third party, such as a non-governmental organization dedicated to habitat conservation, subject to approval by the CPM, in consultation with CDFG and USFWS prior to land acquisition or management activities. Additional funds shall be based on the adjusted market value of compensation lands at the time of construction to acquire and manage habitat. a) Criteria for Burrowing Owl Mitigation Lands. The terms and conditions of this acquisition or easement shall be as described in **BIO-12** [Desert Tortoise Compensatory Mitigation], with the additional criteria to include: 1) the 39 acres of mitigation land must provide suitable habitat for burrowing owls, and 2) the acquisition lands must either currently support burrowing owls or be no farther than 5 miles from an active burrowing owl nesting territory. The 39 acres of burrowing owl mitigation lands may be included with the desert tortoise mitigation lands ONLY if these two burrowing owl criteria are met. If the 39 acres of burrowing owl mitigation land is separate from the acreage required for desert tortoise compensation lands, the Project owner shall fulfill the requirements described below in this condition. b) Security. If the 39 acres of burrowing owl mitigation land is separate from the acreage required for desert tortoise compensation lands, the Project owner or an approved third party shall complete acquisition of the proposed compensation lands within the time period specified for this acquisition (see the verification section at the end of this condition). Alternatively, financial assurance can be provided by the Project owner to the CPM and CDFG, according to the measures outlined in **BIO-12**. These funds shall be used solely for implementation of the measures associated with the Project. Financial assurance can be provided to the CPM and the BLM's Authorized Officer in the form of an irrevocable letter of credit, a pledged savings account or another form of security ("Security") prior to initiating ground-disturbing Project activities. Prior to submittal to the CPM, the Security shall be approved by the CPM and BLM's Authorized Officer, in consultation with CDFG and the USFWS, to ensure funding. The final amount due will be determined by an updated appraisal and PAR analysis conducted as described in **BIO-12**.	time the Project owner shall submit a PAR or PAR-like analysis for the parcels for review and approval by the CPM, BLM's Authorized Officer, CDFG and USFWS. c) Within 90 days of the land or easement purchase, as determined by the date on the title, the Project owner shall provide the CPM and BLM's Authorized Officer with a management plan for review and approval, in consultation with CDFG and USFWS, for the compensation lands and associated funds. d) No later than 30 days prior to beginning Project ground-disturbing activities, the Project owner shall provide a form of Security in accordance with this condition of certification. No later than 7 days prior to beginning Project ground-disturbing activities, the Project owner shall provide written verification of the actual Security. e) No later than 18 months from a initiation of construction the Project owner shall provide written verification to the BLM's Authorized Officer, the CPM and CDFG that the compensation lands or conservation easements have been acquired and recorded in favor of the approved recipient. f) As part of the Annual Compliance Report, each year following construction for a period of five years, the Designated Biologist shall provide a report to the CPM, BLM's Authorized Officer, USFWS and CDFG that describes the results of monitoring and management of the burrowing owl relocation area.	
BIO-19 This condition contains the following four sections: **Section A: Special-Status Plant Impact Avoidance and Minimization Measures** contains the Best Management Practices and other measures designed to avoid accidental impacts to plants occurring outside of the Project Disturbance Area and within 100 feet of the Project Disturbance Area during construction, operation, and closure. **Section B: Conduct Late Season Botanical Surveys** describes guidelines for conducting summer-fall 2010 surveys to detect special-status plants that would have been missed during the spring 2010 surveys.	The Special-Status Plant Impact Avoidance and Minimization Measures shall be incorporated into the BRMIMP as required under Condition of Certification **BIO-7**. Raw GPS data, metadata, and CNDDB field forms shall be submitted to the CPM within two weeks of the completion of each survey. A preliminary summary of	

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Section C: Avoidance Requirements for Special-Status Plants Detected **in the Summer/Fall 2010 Surveys** outlines the level of avoidance required for plants detected during the summer-fall surveys, based on the species' rarity and status codes. **Section D: Off-Site Compensatory Mitigation for Special-Status Plants** describes performance standards for mitigation for a range of options for compensatory mitigation through acquisition, restoration/enhancement, or a combination of acquisition and restoration/enhancement. "Project Disturbance Area" encompasses all areas to be temporarily and permanently disturbed by the Project, including the plant site, linear facilities, and areas disturbed by temporary access roads, fence installation, construction work lay-down and staging areas, parking, storage, or by any other activities resulting in disturbance to soil or vegetation. The Project owner shall implement the following measures in Section A, B, C, and D to avoid, minimize, and compensate for impacts to special-status plant species: **Section A: Special-Status Plant Impact Avoidance and Minimization Measures** To protect all special-status plants[2] located outside of the Project Disturbance Area and within 100 feet of the permitted Project Disturbance Area from accidental and indirect impacts during construction, operation, and closure, the Project owner shall implement the following measures: 1. Designated Botanist. An experienced botanist who meets the qualifications described in Section **B-2** below shall oversee compliance with all special-status plant avoidance, minimization, and compensation measures described in this condition throughout construction and closure. The Designated Botanist shall oversee and train all other Biological Monitors tasked with conducting botanical survey and monitoring work. During operation of the Project, the Designated Biologist shall be responsible for protecting special-status plant occurrences within 100 feet of the Project boundaries. 2. Special-Status Plant Impact Avoidance and Minimization Measures. The Project owner shall incorporate all measures for protecting special-status plants in close proximity to the site into the BRMIMP (**BIO-7**). These measures shall include the following elements: a) Site Design Modifications: Incorporate site design modifications to minimize impacts to special-status plants along the Project linears: limiting the width of the work area; adjusting the location of staging areas, lay downs, spur roads and poles or towers; driving and crushing vegetation as an alternative to blading temporary roads to preserve the seed bank, and minor adjustments to the alignment of the roads and pipelines within the constraints of the ROW. Design the engineered channel discharge points to maintain the natural surface drainage patterns between the engineered channel and the outlet of the natural washes that flow toward the south and east, downstream of the Project These modifications shall be clearly depicted on the grading and construction plans, and on report-sized maps in the BRMIMP. b) Establish Environmentally Sensitive Areas (ESAs). Prior to the start of any ground- or vegetation-disturbing activities, the Designated Botanist shall establish ESAs to protect avoided special-status plants that occur outside of the Project Disturbance Areas and within 100 feet of Project Disturbance Areas. This includes plant occurrences	results for the late summer/fall botanical surveys shall also be submitted to the CPM and BLM's State Botanist within two weeks following the completion of the surveys. If surveys are split into more than one period, then a summary letter shall be submitted following each survey period. The Final Summer-Fall Botanical Survey Report, GIS shape files and metadata shall be submitted to the BLM State Botanist and the CPM no less than 30 days prior to the start of ground-disturbing activities. The Final Report shall include a detailed accounting of the acreage of Project impacts to special-status plant occurrences. The draft conceptual Special-Status Plant Mitigation Plan shall be submitted to the CPM for review and approval no less than 30 days prior to the start of ground-disturbing activities. The Project owner shall immediately provide written notification to the CPM, CDFG, USFWS, and BLM if it detects a State- or Federal-Listed Species, or BLM Sensitive Species at any time during its late summer/fall botanical surveys or at any time thereafter through the life of the Project, including conclusion of Project decommissioning. No less than 30 days prior to the start of ground-disturbing activities the Project owner shall submit grading plans and construction drawings to the CPM which depict the location of Environmentally Sensitive Areas and the Avoidance and Minimization Measures contained in Section A of this Condition. If compensatory mitigation is required, no less than 30 days prior to the start of ground-disturbing activities, the Project owner shall submit to the CPM the form of Security adequate to acquire compensatory mitigation lands and/or undertake habitat enhancement or restoration activities, as described in this condition. Actual Security shall be provided 7 days prior to start of ground-disturbing activities.	

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[2] Staff defines special-status plants as described in *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities* (California Natural Resources Agency, Department of Fish and Game, issued November 24, 2009).

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
identified during the spring 2009-2010 surveys and the late season 2010 surveys. The locations of ESAs shall be clearly depicted on construction drawings, which shall also include all avoidance and minimization measures on the margins of the construction plans. The boundaries of the ESAs shall be placed a minimum of 20 feet from the uphill side of the occurrence and 10 feet from the downhill side. Where this is not possible due to construction constraints, other protection measures, such as silt-fencing and sediment controls, may be employed to protect the occurrences. Equipment and vehicle maintenance areas, and wash areas, shall be located 100 feet from the uphill side of any ESAs. ESAs shall be clearly delineated in the field with temporary construction fencing and signs prohibiting movement of the fencing or sediment controls under penalty of work stoppages and additional compensatory mitigation. ESAs shall also be clearly identified (with signage or by mapping on site plans) to ensure that avoided plants are not inadvertently harmed during construction, operation, or closure. c) Special-Status Plant Worker Environmental Awareness Program (WEAP). The WEAP (**BIO-6**) shall include training components specific to protection of special-status plants as outlined in this condition. d) Herbicide and Soil Stabilizer Drift Control Measures. Special-status plant occurrences within 100 feet of the Project Disturbance Area shall be protected from herbicide and soil stabilizer drift. The Weed Control Program (**BIO-14**) shall include measures to avoid chemical drift or residual toxicity to special-status plants consistent with guidelines such as those provided by the Nature Conservancy's The Global Invasive Species Team[3] , the U.S. Environmental Protection Agency, and the Pesticide Action Network Database[4]. e) Erosion and Sediment Control Measures. Erosion and sediment control measures shall not inadvertently impact special-status plants (e.g., by using invasive or non-native plants in seed mixes, introducing pest plants through contaminated seed or straw, etc.). These measures shall be incorporated in the Drainage, Erosion, and Sedimentation Control Plan required under **SOIL&WATER-1**. f) Avoid Special-Status Plant Occurrences. Areas for spoils, equipment, vehicles, and materials storage areas; parking; equipment and vehicle maintenance areas, and wash areas shall be placed at least 100 feet from any ESAs. g) Monitoring and Reporting Requirements. The Designated Botanist shall conduct weekly monitoring of the ESAs that protect special-status plant occurrences during construction and decommissioning activities. **Section B: Conduct Late-Season Botanical Surveys** The Project owner shall conduct late-summer/fall botanical surveys for late-season special-status plants prior to start of construction or by the end of 2010, as described below: 1. Survey Timing. Surveys shall be timed to detect: a) summer annuals triggered to germinate by the warm, tropical summer storms (which may occur any time between June and October). Fall-blooming perennials that respond to the cooler, later season storms (typically beginning in September or October) shall only be required if blooms and seeds are necessary for identification or the species are summer-deciduous and require leaves for identification. The surveys shall not be timed to coincide with the statistical peak bloom period of the target species but shall instead be based on plant phenology and the timing of a significant storm event (i.e., a 10mm or greater rain or multiple storm events of sufficient	No fewer than 90 days prior to acquisition of compensatory mitigation lands, the Project owner shall submit a formal acquisition proposal and draft Management Plan for the proposed lands to the CPM, with copies to CDFG, USFWS, and BLM, describing the parcels intended for purchase and shall obtain approval from the CPM prior to the acquisition. No fewer than 90 days prior to acquisition of compensatory mitigation lands, the Project owner shall submit to the CPM and obtain CPM approval of any agreements to delegate land acquisition to an approved third party, or to manage compensation lands; such agreement shall be executed and implemented within 18 months of the start of ground disturbance. No fewer than 30 days after acquisition of the property the Project owner shall deposit the funds required by Section I e above (long term management and maintenance fee) and provide proof of the deposit to the CPM. The Project owner or an approved third party shall complete the acquisition and all required transfers of the compensation lands, and provide written verification to the CPM of such completion no later than 18 months after the start of Project ground-disturbing activities. If NFWF or another approved third party is being used for the acquisition, the Project owner shall ensure that funds needed to accomplish the acquisition are transferred in timely manner to facilitate the planned acquisition and to ensure the land can be acquired and transferred prior to the 18-month deadline. If habitat enhancement is proposed, no later than six months following the start of ground-disturbing activities, the Project owner shall obtain CPM approval of the final Habitat Enhancement/Restoration Plan, prepared in accordance with Section D, and submit to the CPM or a third party approved by the CPM Security adequate for long-term implementation and	

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[3] Hillmer, J. & D. Liedtke. 2003. Safe herbicide handling: a guide for land stewards and volunteer stewards. Ohio Chapter, The Nature Conservancy, Dublin, OH. 20 pp. Online: <http://www.invasive.org/gist/products.html.

[4] Pesticide Action Network of North America. Kegley, S.E., Hill, B.R., Orme S., Choi A.H., PAN Pesticide Database, Pesticide Action Network, North America. San Francisco, CA, 2010 <http://www.pesticideinfo.org>

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
volume to trigger germination, as measured at or within 1 mile of the Project site). Surveys shall occur at the appropriate time to capture the characteristics necessary to identify the taxon. Construction of Phase 1A as outlined in Condition of Certification **BIO-28** is authorized to commence following a September survey. 2. Surveyor Qualifications and Training. Surveys shall be conducted by a qualified botanist knowledgeable in the complex biology of the local flora, and consistent with CDFG protocols (CDFG 2009). Each surveyor shall be equipped with a GPS unit and record a complete tracklog; these data shall be compiled and submitted along with the Summer-Fall Survey Botanical Report (described below). Prior to the start of surveys, all crew members shall, at a minimum, visit reference sites (where available) and/or review herbarium specimens of all BLM Sensitive plants, CNPS List 1B or 2 (Nature Serve rank S1 and S2) or proposed List 1B or 2 taxa, and any new reported or documented taxa, to obtain a search image. Because the potential for range extensions is unknown, the list of potentially occurring special-status plants shall include all special-status taxa known to occur within the Sonoran Desert region and the eastern portion of the Mojave in California. The list shall also include taxa with bloom seasons that begin in fall and extend into the early spring as many of these are reported to be easier to detect in fall, following the start of the fall rains. 3. Survey Coverage. The survey coverage or intensity shall be in accordance with BLM Survey Protocols (issued July 2009)[5], which specify that intuitive controlled surveys shall only be accomplished by botanists familiar with the habitats and species that may reasonably be expected to occur in the project area. 4. Documenting Occurrences. If a special-status plant is detected, the full extent of the population onsite shall be recorded using GPS in accordance with BLM survey protocols. Additionally, the extent of the population within one mile of Project boundaries shall be assessed at least qualitatively to facilitate an accurate estimation of the proportion of the population affected by the Project. For populations that are very dense or very large, the population size may be estimated by simple sampling techniques. When populations are very extensive or locally abundant, the surveyor must provide some basis for this assertion and roughly map the extent on a topographic map. All but the smallest populations (e.g., a population occupying less than 100 square feet) shall be recorded as area polygons; the smallest populations may be recorded as point features. All GPS-recorded occurrences shall include: the number of plants, phenology, observed threats (e.g., OHV or invasive exotics), and habitat or community type. The map of occurrences submitted with the final botanical report shall be prepared to ensure consistency with definition of an occurrence by CNDDB, i.e., occurrences found within 0.25 miles of another occurrence of the same taxon, and not separated by significant habitat discontinuities, shall be combined into a single 'occurrence'. The Project owner shall also submit the raw GPS shape files and metadata, and completed CNDDB forms for each 'occurrence' (as defined by CNDDB). 5. Reporting. Raw GPS data, metadata, and CNDDB field forms shall be provided to the CPM within two weeks of the completion of each survey. If surveys are split into two or more periods (e.g., a late summer survey and a fall survey), then a summary letter shall be submitted following each survey period. 2. The Final Summer-Fall Botanical Survey Report shall be prepared consistent with CDFG guidelines (CDFG 2009), and BLM 2009 guidelines and shall include all of the following components: a) the BLM designation, NatureServe Global and State Rank of each species or taxon found (or proposed rank, or CNPS List);	monitoring of the Habitat Enhancement/Restoration Plan. Enhancement/restoration activities shall be initiated no later than 12 months from the start of construction. The implementation phase of the enhancement project shall be completed within five years of initiation. Until completion of the five-year implementation portion of the enhancement action, a report shall be prepared and submitted as part of the Annual Compliance Report. This report shall provide, at a minimum: a summary of activities for the preceding year and a summary of activities for the following year; quantitative measurements of the Project's progress in meeting the enhancement project success criteria; detailed description of remedial actions taken or proposed; and contact information for the responsible parties. If a Distribution Study is implemented as contingency mitigation, the study shall be initiated no later than 6 months from the start of construction. The implementation phase of the study shall be completed within two years of the start of construction. Within 18 months of ground-disturbing activities, the Project owner shall transfer to the CPM or an approved third party the difference between the Security paid and the actual costs of (1) acquiring compensatory mitigation lands, completing initial protection and habitat improvement , and funding the long-term maintenance and management of compensatory mitigation lands; and/or (2) implementing and providing for the long-term protection and monitoring of habitat enhancement or restoration activities. Implementation of the special-status plant impact avoidance and minimization measures shall be reported in the Monthly Compliance Reports prepared by the Designated Botanist. Within 30 days after completion of Project construction, the Project owner shall provide to the CPM, for review and approval, in	

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[5] Bureau of Land Management (BLM), California State Office. *Survey Protocols Required for NEPA/ESA Compliance for BLM Special Status Plant Species*. Issued July 2009.

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
b) the number or percent of the occurrence that will be directly affected, and indirectly affected by changes in drainage patterns or altered geomorphic processes; c) the habitat or plant community that supports the occurrence and the total acres of that habitat or community type that occurs in the Project Disturbance Area; d) an indication of whether the occurrence has any local or regional significance (e.g., if it exhibits any unusual morphology, occurs at the periphery of its range in California, represents a significant range extension or disjunct occurrence, or occurs in an atypical habitat or substrate); e) a completed CNDDB field form for every occurrence (occurrences of the same species within one-quarter mile or less of each other combined as one occurrence, consistent with CNDDB methodology), and f) two maps: one that depicts the raw GPS data (as collected in the field) on a topographic base map with Project features; and a second map that follows the CNDDB protocol for occurrence mapping. **Section C: Avoidance Requirements for Special-Status Plants Detected in the Summer/Fall 2010 Surveys** The Project owner shall apply the following avoidance standards to late blooming special-status plants that might be detected during late summer/fall season surveys. Avoidance and/or the mitigation measures described in Section D below would reduce impacts to these special-status plant species to less than significant levels. 1. Mitigation for CNDDB Rank 1 Plants (Critically Imperiled) - Avoidance Required: If late blooming species with a CNDDB rank of 1 are detected within the Project Disturbance Area the Project owner shall prepare and implement a Special-Status Plant Mitigation Plan (Plan). The goal of the Plan shall be to retain at least 75% of the local population of the affected species. Compensatory mitigation, as described in Section D of this condition, and at a mitigation ratio of 3:1, shall be required for the 25% or portion that is not avoided. The Plan shall include, at a minimum, the following components and definitions: a) A description of the occurrences of the CNDDB rank 1 species on the Project, ecological characteristics such as micro-habitat requirements, ecosystem processes required for maintenance of the habitat, reproduction and dispersal mechanisms, pollinators, local distribution, a description of the extent of the population off-site, the percentage of the local population affected, and a description of how these occurrences would be impacted by the Project, including direct and indirect effects. The "local population" shall include the number of individuals occurring within the Palo Verde Watershed boundaries. Occurrences shall be considered impacted if they are within the Project footprint, and if they would be affected by Project-related hydrologic changes or changes to the local sand transport system. b) A description of the avoidance and minimization measures that would achieve complete avoidance of occurrences on the Project linears and construction laydown areas, unless such avoidance would create greater environmental impacts in other resource areas (e.g. Cultural Resource Sites) or other restrictions (e.g., FAA or other restrictions for placement of transmission poles). c) A description of the measures that would be implemented to avoid or minimize impacts to occurrences on the solar facility. Avoidance is generally considered not feasible if the species is located within the Permanent Project Disturbance Area (bounded by the permanent tortoise exclusion fence and the drainage channels).	consultation with the BLM State Botanist, a written construction termination report identifying how measures have been completed. The Project owner shall submit a monitoring report every year for the life of the project to monitor effectiveness of protection measures for all avoided special-status plants to the CPM and BLM State Botanist. The monitoring report shall include: dates of worker awareness training sessions and attendees, completed CNDDB field forms for each avoided occurrence on-site and within 100 feet of the Project boundary off-site, and description of the remedial action, if warranted and planned for the upcoming year. The completed forms shall include an inventory of the special-status plant occurrences and description of the habitat conditions, an indication of population and habitat quality trends.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
d) If avoidance on the linears, construction laydown areas, and solar facility combined protect less than 75% of the local population of the affected species, the project owner shall implement offsite mitigation that demonstrates that the impacts will not cause a loss of viability for that species. Implementation of the compensatory offsite mitigation must meet the performance standards described in section D of this Condition, and may include land acquisition or implementation of a restoration/enhancement program for the species. e) "Avoidance" shall include protection of the ecosystem processes essential for maintenance of the protected plant occurrence. For all but one of the late blooming plant species with potential to occur, the plant species are annuals that depend on a viable seed bank to maintain population health and persistence. The primary goal of avoidance for these annual species will be protection of the soil integrity and the seed bank that is closely associated with undisturbed soils. Any impacts to the soil structure or surface features will be considered an impact, but measures like temporary mowing or brush removal that does not disturb the soil will not be considered impacts to the population. Isolated 'islands' of protected plants disconnected by the Project from natural fluvial, aeolian (wind), or other processes essential for maintenance of the species, shall not be considered to be protected and shall not be credited as contributing to the 75% avoidance requirement because such isolated populations are not sustainable. 2. Mitigation for CNDDB Rank 2 Plants (Imperiled) –Avoidance on Linears Required: If species with a CNDDB rank of 2 are detected within the Project Disturbance Area, the Project owner shall prepare and implement a Special-Status Plant Mitigation Plan (Plan) that describes measures to achieve complete avoidance of occurrences on the Project linears and construction laydown areas, unless such avoidance would create greater environmental impacts in other resource areas (e.g. Cultural Resource Sites) or other restrictions (e.g., FAA or other restrictions for placement of transmission poles). The Project owner shall provide compensatory mitigation, at a ratio of 2:1, as described below in Section D for impacts to Rank 2 plants that could not be avoided. The content of the Plan and definitions shall be as described above in subsection C.1. 3. Mitigation for CNDDB Rank 3 Plants – No On-Site Avoidance Required Unless Local or Regional Significance: If species with a CNDDB rank of 3 are detected within the Project Disturbance Area, no onsite avoidance or compensatory mitigation shall be required unless the occurrence has local or regional significance, in which case the plant occurrence shall be treated as a CNDDB rank 2 plant species. A plant occurrence would be considered to have local or regional significance if: a) It occurs at the outermost periphery of its range in California; b) It occurs in an atypical habitat, region, or elevation for the taxon that suggests that the occurrence may have genetic significance (e.g., that may increase its ability to survive future threats), or; c) It exhibits any unusual morphology that is not clearly attributable to environmental factors that may indicate a potential new variety or sub-species. 4. Pre-Construction Notification for State- or Federal-Listed Species, or BLM Sensitive Species. If a state or federal-listed species or BLM Sensitive species is detected, the Project owner shall immediately notify the CDFG, USFWS, BLM, and the CPM. 5. Preservation of the Germplasm of Affected Special-Status Plants. For all significant impacts to special-status plants, regardless of whether compensatory mitigation is required, mitigation shall include seed collection from the affected special-status plants on-site prior to construction to conserve the germplasm and provide a seed source for restoration		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		

efforts. The seed shall be collected under the supervision or guidance of a reputable seed storage facility such as the Rancho Santa Ana Botanical Garden Seed Conservation Program, San Diego Natural History Museum, or the Missouri Botanical Garden. The costs associated with the long-term storage of the seed shall be the responsibility of the Project owner. Any efforts to propagate and reintroduce special-status plants from seeds in the wild shall be carried out under the direct supervision of specialists such as those listed above and as part of a Habitat Restoration/Enhancement Plan approved by the CPM.

Section D: Off-Site Compensatory Mitigation for Special-Status Plants

Where compensatory mitigation is required under the terms of Section C, above, the Project owner shall mitigate Project impacts to special-status plant occurrences with compensatory mitigation. Compensatory mitigation shall consist of acquisition of habitat supporting the target species, or restoration/enhancement of populations of the target species, and shall meet the performance standards for mitigation described below. In the event that no opportunities for acquisition or restoration/enhancement exist, the Project owner can fund a species distribution study designed to promote the future preservation, protection or recovery of the species. Compensatory mitigation shall be at a ratio of 3:1 for Rank 1 plants, with three acres of habitat acquired or restored/enhanced for every acre of habitat occupied by the special status plant that will be disturbed by the Project Disturbance Area (for example if the area occupied by the special status plant collectively measured is ¼ acre than the compensatory mitigation will be ¾ of an acre). The mitigation ratio for Rank 2 plants shall be 2:1. So, for the example above, the mitigation ratio would be one-half acre for the Rank 2 plants.

3. The Project owner shall provide funding for the acquisition and/or restoration/enhancement, initial improvement, and long-term maintenance and management of the acquired or restored lands. The actual costs to comply with this condition will vary depending on the Project Disturbance Area, the actual costs of acquiring compensation habitat, the actual costs of initially improving the habitat, the actual costs of long-term management as determined by a Property Analysis Record (PAR) report, and other transactional costs related to the use of compensatory mitigation.

The Project owner shall comply with other related requirements in this condition:

I. Compensatory Mitigation by Acquisition: The requirements for the acquisition initial protection and habitat improvement, and long-term maintenance and management of special-status plant compensation lands include all of the following:

1. Selection Criteria for Acquisition Lands. The compensation lands selected for acquisition may include any of the following three categories:
    a) Occupied Habitat, No Habitat Threats: The compensation lands selected for acquisition shall be occupied by the target plant population and shall be characterized by site integrity and habitat quality that are required to support the target species, and shall be of equal or better habitat quality than that of the affected occurrence. The occurrence of the target special-status plant on the proposed acquisition lands should be viable, stable or increasing (in size and reproduction).
    b) Occupied Habitat, Habitat Threats. Occupied compensation lands characterized by habitat threats may also be acquired as long as the population could be reasonably expected to recover with habitat restoration efforts (e.g., OHV or grazing exclusion, or removal of invasive non-native plants) and is accompanied by a Habitat Enhancement/Restoration Plan as described in Section D.II, below.
    c) Unoccupied but Adjacent. The Project owner may also acquire habitat for which occupancy by the target species has not been documented, if the proposed acquisition lands are adjacent to occupied habitat. The Project owner shall

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
provide evidence that acquisitions of such unoccupied lands would improve the defensibility and long-term sustainability of the occupied habitat by providing a protective buffer around the occurrence and by enhancing connectivity with undisturbed habitat. This acquisition may include habitat restoration efforts where appropriate, particularly when these restoration efforts will benefit adjacent habitat that is occupied by the target species. 2 Review and Approval of Compensation Lands Prior to Acquisition. The Project owner shall submit a formal acquisition proposal to the CPM describing the parcel(s) intended for purchase. This acquisition proposal shall discuss the suitability of the proposed parcel(s) as compensation lands for special-status plants in relation to the criteria listed above, and must be approved by the CPM. 3. Management Plan. The Project owner or approved third party shall prepare a management plan for the compensation lands in consultation with the entity that will be managing the lands. The goal of the management plan shall be to support and enhance the long-term viability of the target special-status plant occurrences. The Management Plan shall be submitted for review and approval to the CPM. 4. Integrating Special-Status Plant Mitigation with Other Mitigation lands. If all or any portion of the acquired Desert Tortoise, Waters of the State, or other required compensation lands meets the criteria above for special-status plant compensation lands, the portion of the other species' or habitat compensation lands that meets any of the criteria above may be used to fulfill that portion of the obligation for special-status plant mitigation. 5. Compensation Lands Acquisition Requirements. The Project owner shall comply with the following requirements relating to acquisition of the compensation lands after the CPM, has approved the proposed compensation lands: a) Preliminary Report. The Project owner, or an approved third party, shall provide a recent preliminary title report, initial hazardous materials survey report, biological analysis, and other necessary or requested documents for the proposed compensation land to the CPM. All documents conveying or conserving compensation lands and all conditions of title are subject to review and approval by the CPM. For conveyances to the State, approval may also be required from the California Department of General Services, the Fish and Game Commission and the Wildlife Conservation Board. b) Title/Conveyance. The Project owner shall acquire and transfer fee title to the compensation lands, a conservation easement over the lands, or both fee title and conservation easement, as required by the CPM. Any transfer of a conservation easement or fee title must be to CDFG, a non-profit organization qualified to hold title to and manage compensation lands (pursuant to California Government Code section 65965), or to BLM or other public agency approved by the CPM. If an approved non-profit organization holds fee title to the compensation lands, a conservation easement shall be recorded in favor of CDFG or another entity approved by the CPM. If an entity other than CDFG holds a conservation easement over the compensation lands, the CPM may require that CDFG or another entity approved by the CPM, in consultation with CDFG, be named a third party beneficiary of the conservation easement. The Project owner shall obtain approval of the CPM of the terms of any transfer of fee title or conservation easement to the compensation lands. c) Initial Protection and Habitat Improvement. The Project owner shall fund activities that the CPM requires for the initial protection and habitat improvement of the compensation lands. These activities will vary depending on the condition and location of the land acquired, but may include trash removal, construction and repair of fences, invasive plant removal, and similar measures to protect habitat and improve habitat quality on the compensation lands. The costs of these activities are estimated to be $330 per acre, using the estimated cost per acre for Desert Tortoise mitigation		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
as a best available proxy, at the ratio of 3:1 for Rank 1 plants and 2:1 for Rank 2 plants, but actual costs will vary depending on the measures that are required for the compensation lands. A non-profit organization, CDFG or another public agency may hold and expend the habitat improvement funds if it is qualified to manage the compensation lands (pursuant to California Government Code section 65965), if it meets the approval of the CPM in consultation with CDFG, and if it is authorized to participate in implementing the required activities on the compensation lands. If CDFG takes fee title to the compensation lands, the habitat improvement fund must be paid to CDFG or its designee. d) Property Analysis Record. Upon identification of the compensation lands, the Project owner shall conduct a Property Analysis Record (PAR) or PAR-like analysis to establish the appropriate amount of the long-term maintenance and management fund to pay the in-perpetuity management of the compensation lands. The PAR or PAR-like analysis must be approved by the CPM before it can be used to establish funding levels or management activities for the compensation lands. e) Long-term Maintenance and Management Funding. In accordance with BIO-28 (phasing), the Project owner shall deposit in NFWF's REAT Account a non-wasting capital long-term maintenance and management fee in the amount determined through the Property Analysis Record (PAR) or PAR-like analysis conducted for the compensation lands. 4. The CPM, in consultation with CDFG, may designate another non-profit organization to hold the long-term maintenance and management fee if the organization is qualified to manage the compensation lands in perpetuity. If CDFG takes fee title to the compensation lands, CDFG shall determine whether it will hold the long-term management fee in the special deposit fund, leave the money in the REAT Account, or designate another entity to manage the long-term maintenance and management fee for CDFG and with CDFG supervision. . f) Interest, Principal, and Pooling of Funds. The Project owner shall ensure that an agreement is in place with the long-term maintenance and management fund (endowment) holder/manager to ensure the following requirements are met: i) Interest. Interest generated from the initial capital long-term maintenance and management fund shall be available for reinvestment into the principal and for the long-term operation, management, and protection of the approved compensation lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action that is approved by the CPM and is designed to protect or improve the habitat values of the compensation lands. ii) Withdrawal of Principal. The long-term maintenance and management fund principal shall not be drawn upon unless such withdrawal is deemed necessary by the CPM or by the approved third-party long-term maintenance and management fund manager, to ensure the continued viability of the species on the compensation lands. iii) Pooling Long-Term Maintenance and Management Funds. An entity approved to hold long-term maintenance and management funds for the Project may pool those funds with similar non-wasting funds that it holds from other projects for long-term maintenance and management of compensation lands for special-status plants. However, for reporting purposes, the long-term maintenance and management funds for this Project must be tracked and reported individually to the CPM. g) Other Expenses. In addition to the costs listed above, the Project owner shall be responsible for all other costs related to acquisition of compensation lands and conservation easements, including but not limited to the title and		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	**Verification**	**Responsible Agency**
BIOLOGICAL RESOURCES (cont.)		
document review costs incurred from other state agency reviews, overhead related to providing compensation lands to CDFG or an approved third party, escrow fees or costs, environmental contaminants clearance, and other site cleanup measures. h) Mitigation Security. The Project owner shall provide financial assurances in accordance with BIO-28 (phasing) to the CPM to guarantee that an adequate level of funding is available to implement any of the mitigation measures required by this condition that are not completed prior to the start of ground-disturbing Project activities. Financial assurances shall be provided to the CPM in the form of an irrevocable letter of credit, a pledged savings account or another form of security ("Security") approved by the CPM. The amount of the Security shall be $2,280 per acre, using the estimated cost per acre for Desert Tortoise mitigation as a best available proxy, at a ratio of 3:1 for Rank 1 plants and 2:1 for Rank 2 plants, for every acre of habitat supporting the target special-status plant species which is significantly impacted by the project. The actual costs to comply with this condition will vary depending on the actual costs of acquiring compensation habitat, the costs of initially improving the habitat, and the actual costs of long-term management as determined by a PAR report. Prior to submitting the Security to the CPM, the Project owner shall obtain the CPM's approval of the form of the Security. The CPM may draw on the Security if the CPM determines the Project owner has failed to comply with the requirements specified in this condition. The CPM may use money from the Security solely for implementation of the requirements of this condition. The CPM's use of the Security to implement measures in this condition may not fully satisfy the Project owner's obligations under this condition, and the Project owner remains responsible for satisfying the obligations under this condition if the Security is insufficient. The unused Security shall be returned to the Project owner in whole or in part upon successful completion of the associated requirements in this condition. i. The Project owner may elect to comply with the requirements in this condition for acquisition of compensation lands, initial protection and habitat improvement on the compensation lands, or long-term maintenance and management of the compensation lands by funding, or any combination of these three requirements, by providing funds to implement those measures into the Renewable Energy Action Team (REAT) Account established with the National Fish and Wildlife Foundation (NFWF). To use this option, the Project owner must make an initial deposit to the REAT Account in an amount equal to the estimated costs (as set forth in the Security section of this condition) of implementing the requirement. If the actual cost of the acquisition, initial protection and habitat improvements, or long-term funding is more than the estimated amount initially paid by the Project owner, the Project owner shall make an additional deposit into the REAT Account sufficient to cover the actual acquisition costs, the actual costs of initial protection and habitat improvement on the compensation lands, and the long-term funding requirements as established in an approved PAR or PAR-like analysis. If those actual costs or PAR projections are less than the amount initially transferred by the Applicant, the remaining balance shall be returned to the Project owner. The responsibility for acquisition of compensation lands may be delegated to a third party other than NFWF, such as a non-governmental organization supportive of desert habitat conservation, by written agreement of the Energy Commission. Such delegation shall be subject to approval by the CPM, in consultation with CDFG, BLM and USFWS, prior to land acquisition, enhancement or management activities. Agreements to delegate land acquisition to an approved third party, or to manage compensation lands, shall be executed and implemented within 18 months of the Energy Commission's certification of the Project. II. Compensatory Mitigation by Habitat Enhancement/Restoration: As an alternative or adjunct to land acquisition for compensatory mitigation the Project owner may undertake habitat enhancement or restoration for the target special-status		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
plant species. Habitat enhancement or restoration activities must achieve protection at a 3:1 ratio for Rank 1 plants and 2:1 for Rank 2 plants, with improvements applied to three acres, or two acres, respectively, of habitat for every acre special-status plant habitat directly or indirectly disturbed by the Project Disturbance Area (for example if the area occupied by the special status plant collectively measured is ¼ acre than the improvements would be applied to an area equal to ¾ of an acre at a 3:1 ratio, or one-half acre at a 2:1 ratio). Examples of suitable enhancement projects include but are not limited to the following: i) control unauthorized vehicle use into an occurrence (or pedestrian use if clearly damaging to the species); ii) control of invasive non-native plants that infest or pose an immediate threat to an occurrence; iii) exclude grazing by wild burros or livestock from an occurrence; or iv) restore lost or degraded hydrologic or geomorphic functions critical to the species by restoring previously diverted flows, removing obstructions to the wind sand transport corridor above an occurrence, or increasing groundwater availability for dependent species. If the Project owner elects to undertake a habitat enhancement project for mitigation, the project must meet the following performance standards: The proposed enhancement project shall achieve rescue of an off-site occurrence that is currently assessed, based on the NatureServe threat ranking system[6] with one of the following threat ranks: a) long-term decline >30%; b) an immediate threat that affects >30% of the population, or c) has an overall threat impact that is High to Very High. "Rescue" would be considered successful if it achieves an improvement in the occurrence trend to "stable" or "increasing" status, or downgrading of the overall threat rank to slight or low (from "High" to "Very High"). If the Project owner elects to undertake a habitat enhancement project for mitigation, they shall submit a Habitat Enhancement/Restoration Plan to the CPM for review and approval, and shall provide sufficient funding for implementation and monitoring of the Plan. The amount of the Security shall be $2,280 per acre, using the estimated cost per acre for Desert Tortoise mitigation as a best available proxy, at the ratio of 3:1 for Rank 1 plants and 2:1 for Rank 2 plants, for every acre of habitat supporting the target special-status plant species which is directly or indirectly impacted by the project. The amount of the security may be adjusted based on the actual costs of implementing the enhancement, restoration and monitoring. The implementation and monitoring of the enhancement/restoration may be undertaken by an appropriate third party such as NFWF, subject to approval by the CPM. The Habitat Enhancement/Restoration Plan shall include each of the following: 1. Goals and Objectives. Define the goals of the restoration or enhancement project and a measurable course of action developed to achieve those goals. The objective of the proposed habitat enhancement plan shall include restoration of a target special-status plant occurrence that is currently threatened with a long-term decline. The proposed enhancement plan shall achieve an improvement in the occurrence trend to "stable" or "increasing" status, or downgrading of the overall threat rank to slight or low (from "High" to "Very High"). 2. Historical Conditions. Provide a description of the pre-impact or historical conditions (before the site was degraded by weeds or grazing or ORV, etc.), and the desired conditions. 3. Site Characteristics. Describe other site characteristics relevant to the restoration or enhancement project (e.g., composition of native and pest plants, topography and drainage patterns, soil types, geomorphic and hydrologic processes important to the site or species.		

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[6] Master, L., D. Faber-Langendoen, R. Bittman, G. A., Hammerson, B. Heidel, J. Nichols, L. Ramsay, and A. Tomaino. 2009. *NatureServe Conservation Status Assessments: Factors for Assessing Extinction Risk.* NatureServe, Arlington, VA. Online: http://www.natureserve.org/publications/ConsStatusAssess_StatusFactors.pdf , "Threats". See also: Morse, L.E., J.M. Randall, N. Benton, R. Hiebert, and S. Lu. 2004. An Invasive Species Assessment Protocol: Evaluating Non-Native Plants for Their Impact on Biodiversity. Version 1. NatureServe, Arlington, Virginia. Online: http://www.natureserve.org/publications/pubs/invasiveSpecies.pdf

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
4. Ecological Factors. Describe other important ecological factors of the species being protected, restored, or enhanced such as total population, reproduction, distribution, pollinators, etc.		
5. Methods. Describe the restoration methods that will be used (e.g., invasive exotics control, site protection, seedling protection, propagation techniques, etc.) and the long-term maintenance required. The implementation phase of the enhancement must be completed within five years.		
6. Budget. Provide a detailed budget and time-line, and develop clear, measurable, objective-driven annual success criteria.		
7. Monitoring. Develop clear, measurable monitoring methods that can be used to evaluate the effectiveness of the restoration and the benefit to the affected species. The Plan shall include a minimum of five years of quarterly monitoring, and then annual monitoring for the remainder of the enhancement project, and until the performance standards for rescue of a threatened occurrence are met. At a minimum the progress reports shall include: quantitative measurements of the projects progress in meeting the enhancement project success criteria, detailed description of remedial actions taken or proposed, and contact information for the responsible parties.		
8. Reporting Program. The Plan shall ensure accountability with a reporting program that includes progress toward goals and success criteria. Include names of responsible parties.		
9. Contingency Plan. Describe the contingency plan for failure to meet annual goals.		
10. Long-term Protection. Include proof of long-term protection for the restoration site. For private lands this would include conservations easements or other deed restrictions; projects on public lands must be contained in a Desert Wildlife Management Area, Wildlife Habitat Management Area, or other land use protections that will protect the mitigation site and target species.		
III. Compensatory Mitigation by Conducting or Contributing to a Special-Status Plant Species Distribution Study: As a contingency measure in the event that there are no opportunities for acquisition or restoration/enhancement, a Scientific Study of Special-status Plant Species Distribution Study may be funded. Distribution and occurrence health data is very limited for many of the sensitive species that occur on the Project or have potential to occur on the project, especially the late summer and fall blooming species. Some of these late blooming species are only known from a few viable occurrences in California, and historic occurrences that have not been re-located or surveyed since they were first documented. The objectives of this study would be to better understand the full distribution of the affected species, the degree and immediacy of threats to occurrences, and ownership and management opportunities, with the primary goal of future preservation, protection, or recovery. This study would include the following:		
1. Historical Occurrence Review. The Study would include an evaluation of historical localities for the species known to occur on the project or with potential to occur. This would include a review of the CNDDB database, herbarium records from regional herbaria (U.C. Riverside, San Diego Natural History Museum, etc.), other biotechnical reports from the region, and information from regional botanical experts.		
2. Conduct Site Visits to Historical Localities. Historical occurrences would be evaluated in the field during the appropriate time of the year for each late blooming species. If located, these occurrences would be evaluated for population size, numbers, plant associates, soils, habitat quality, and potential threats, degree and immediacy of threats, ownership and management opportunities. GPS location data would also be collected during these site visits.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
3. Survey Areas with habitat potential that surround each of these species occurrences to better determine the full range of distribution. If additional populations are found, collect data (GPS and assessment) on these additional populations consistent with III.2 above. 4. Prepare a Distribution Study Report. A report that discusses the finding from the historical information and the range extension surveys would be prepared that summarizes the information for each of the late season surveys. This report will provide valuable information and a better understanding of the actual distribution of these late blooming species within California and will help to determine when and when not there is potential for these species to occur. This valuable information will include a better understand of the ecological factors driving the distribution of these species and will help to better target appropriate habitat for both future surveys as well as potential future mitigation lands. All data from this study will be submitted for incorporation into the CNDDB system and the study report will be made available to resource agencies, conservation groups, and other interested parties. 5. Currently there is no program or study in place that is attempting to address the distributional issues for these late blooming species. If an existing study is identified or if one is developed prior to the study outlined here, an option to fund the existing study may be considered. If an existing study cannot be indentified then one will be developed that follows the guidelines discussed above. The funding provided for the program would be no greater than the cost for acquisition, enhancement, and long-term management of compensatory mitigation lands based on impacts to late blooming sensitive plant species.		
BIO-20 To mitigate for habitat loss and direct impacts to Mojave fringe-toed lizards the Project owner shall provide compensatory mitigation at a 3:1ratio, which may include compensation lands purchased in fee or in easement in whole or in part, for impacts to stabilized or partially stabilized desert dune habitat (58 acres or the acreage of sand dune/partially stabilized sand dune habitat impacted by the final Project footprint). If compensation lands are acquired, the Project owner shall provide funding for the acquisition in fee title or in easement, initial habitat improvements and long-term maintenance and management of the compensation lands. 1. Criteria for Compensation Lands: The compensation lands selected for acquisition shall: a) Be sand dune or partially stabilized sand dune habitat within the Palen Valley or Chuckwalla Valley with potential to contribute to Mojave fringe-toed lizard habitat connectivity and build linkages between known populations of Mojave fringe-toed lizards and preserve lands with suitable habitat; b) To the extent feasible, be connected to lands currently occupied by Mojave fringe-toed lizard; c) To the extent feasible, be near larger blocks of lands that are either already protected or planned for protection, or which could feasibly be protected long-term by a public resource agency or a non-governmental organization dedicated to habitat preservation; d) Provide quality habitat for Mojave fringe-toed lizard, that has the capacity to regenerate naturally when disturbances are removed; e) Not have a history of intensive recreational use or other disturbance that might make habitat recovery and restoration infeasible;	No later than 30 days prior to beginning Project ground-disturbing activities, the Project owner shall provide written verification of Security in accordance with this condition of certification. The Project owner, or an approved third party, shall complete and provide written verification of the proposed compensation lands acquisition within 18 months of the start of Project ground-disturbing activities. No less than 90 days prior to acquisition of the property, the Project owner shall submit a formal acquisition proposal to BLM's Authorized Officer, the CPM, CDFG and USFWS describing the parcels intended for purchase. The Project owner, or an approved third party, shall provide BLM's Authorized Officer, the CPM, CDFG and USFWS with a management plan for the compensation lands and associated funds within 180 days of the land or easement purchase, as determined by the date on the title. BLM's Authorized Officer and the CPM shall review and approve the management plan, in consultation with CDFG and the USFWS.	

TABLE G-1 (Continued) CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
f) Not be characterized by high densities of invasive species, either on or immediately adjacent to the parcels under consideration, that might jeopardize habitat recovery and restoration; g) Not contain hazardous wastes that cannot be removed to the extent the site is suitable for habitat; h) Not be subject to property constraints (i.e. mineral leases, cultural resources); and i) Be on land for which long-term management is feasible. 2. Security for Implementation of Mitigation: The Project owner shall provide financial assurances to the CPM and BLM's Authorized Officer to guarantee that an adequate level of funding is available to implement the acquisitions and enhancement of Mojave fringe-toed lizard habitat as described in this condition. These funds shall be used solely for implementation of the measures associated with the Project. Financial assurance can be provided to the CPM and BLM's Authorized Officer according to the measures outlined in **BIO-12**, and within the time period specified for this assurance (see the verification section at the end of this condition). The final amount due will be determined by an updated appraisal and a PAR analysis conducted as described in **BIO-12**. 3. Preparation of Management Plan: The Project owner shall submit to the CPM, BLM's Authorized Officer, CDFG and USFWS a draft Management Plan that reflects site-specific enhancement measures for the Mojave fringe-toed lizard habitat on the acquired compensation lands. The objective of the Management Plan shall be to enhance the value of the compensation lands for Mojave fringe-toed lizards, and may include enhancement actions such as weed control, fencing to exclude livestock, erosion control, or protection of sand sources or sand transport corridors.	Within 90 days after completion of Project construction, the Project owner shall provide to the CPM and BLM's Authorized Officer an analysis with the final accounting of the amount of sand dune/stabilized sand dune habitat disturbed during Project construction. The Project owner shall provide written verification to BLM's Authorized Officer, the CPM, USFWS, and CDFG that the compensation lands or conservation easements have been acquired and recorded in favor of the approved recipient no later than 18 months from the start of ground-disturbing activities.	
BIO-21 To compensate for Project contributions to loss of spring foraging habitat for Nelson's bighorn sheep, the Project owner shall: 1. Create a New Water Source. The Project owner shall create a new water source for the Southern Mojave metapopulation of bighorn sheep in the McCoy Mountains or in other mountain ranges in the vicinity of the Project north of I-10, or shall renovate/restore an existing water source. The Project owner shall provide an assessment of which option (restoration or creation of a water source) would offer the most benefit for the Southern Mojave metapopluation of bighorn sheep. The Project owner shall consult with BLM and with the CDFG in development of that assessment. The Project owner shall monitor and manage the artificial or restored water source for the benefit of bighorn sheep for the life of the Project, or shall provide sufficient funding to support such monitoring and management by an approved third party. Or 2. Acquire Compensatory Habitat. As an alternative to providing a water source as described above, the Project owner may elect to secure compensatory mitigation lands that would offset the loss of spring foraging habitat (desert dry wash woodland, vegetated swales, and unvegetated washes) for Southern Mojave metapopolation Nelson's bighorn sheep. If the Project owner selects this compensatory mitigation option the Project owner shall acquire, in fee or in easement no less than 922 acres of lands that: a) Provide suitable spring forage habitat for bighorn sheep in the form of desert dry wash woodland and vegetated swales within intermixed Sonoran creosote bush scrub habitat and	No later than 6 months following publication of the Energy Commission Decision the Project owner shall submit to the CPM for review and approval a description of the proposed location of the water source that will be created or restored, including a discussion as to why the proposed site would benefit local and regional bighorn sheep populations. No later than 18 months following the publication of the Energy Commission Decision, the Project owner shall provide written verification to the CPM that restoration or construction of the artificial water source has been completed. At the same time, the Project owner shall: (1) provide a monitoring and management plan for bighorn use of the water source; and (2) provide evidence of an agreement (Memorandum of Understanding) and a funding mechanism to provide ongoing maintenance of the water source by CDFG or some other party approved by the CPM in consultation with BLM and CDFG.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
b) Be within spring foraging habitat that would benefit the Southern Mojave metapopulation (i.e., north of I-10). Priority acquisition areas would be in eastern Riverside County roughly bounded by Interstate 10, Highway 62, and Highway 177. Acquisition Terms and Conditions. The terms and conditions of this acquisition or easement shall be as described in **BIO-12** (Desert Tortoise Compensatory Mitigation). The responsibilities for acquisition and management of the compensation lands may be delegated by written agreement to CDFG or to a third party, such as a non-governmental organization dedicated to habitat conservation, subject to approval by the CPM, in consultation with CDFG and USFWS prior to land acquisition or management activities. Additional funds shall be based on the adjusted market value of compensation lands at the time of construction to acquire and manage habitat. Review and Approval of Compensation Lands Prior to Acquisition. The Project owner shall submit a formal acquisition proposal to the CPM, CDFG, USFWS, and BLM describing the parcel(s) intended for purchase. This acquisition proposal shall discuss the suitability of the proposed parcel(s) as compensation lands for the southern Mojave metapopulation of bighorn in relation to the criteria listed above. Approval from the CPM, in consultation with BLM and CDFG, shall be required for acquisition of all parcels comprising the compensation lands. Acquisition Security. If the 922 acres of bighorn sheep mitigation land is separate from the acreage required for desert tortoise compensation lands, the Project owner or an approved third party shall complete acquisition of the proposed compensation lands within the time period specified for this acquisition (see the Verification section at the end of this condition). Alternatively, financial assurance can be provided by the Project owner to the CPM and CDFG, according to the measures outlined in **BIO-12**. These funds shall be used solely for implementation of the measures associated with the Project. Financial assurance can be provided to the CPM in the form of an irrevocable letter of credit, a pledged savings account or another form of security ("Security") prior to initiating ground-disturbing Project activities. Prior to submittal to the CPM, the Security shall be approved by the CPM and BLM's Authorized Officer, in consultation with CDFG and the USFWS, to ensure funding. The final amount due will be determined by an updated appraisal and PAR analysis conducted as described in **BIO-12**.	As part of the annual compliance report, each year following completion of construction/restoration of the water source, the Project owner shall provide a report to the CPM that includes: a description of bighorn sheep detections at the water source and a summary of management activities for the year; a discussion of whether management goals for the year were met; and, if warranted, recommendations for management activities for the upcoming year to improve bighorn sheep use at the water source. If the Project owner elects to mitigate for loss of bighorn sheep spring foraging habitat with acquisition of compensatory mitigation lands as described above, no less than 90 days prior to acquisition of the bighorn sheep compensation lands, the Project owner, or an approved third party, shall submit a formal acquisition proposal to the CPM, BLM's Authorized Officer, CDFG, and USFWS describing the 922 acres of lands intended for purchase. At the same time the Project owner shall submit a PAR or PAR-like analysis for the parcels for review and approval by the CPM, BLM's Authorized Officer, CDFG, and USFWS. No later than 30 days prior to beginning Project ground-disturbing activities, the Project owner shall provide written verification of Security for acquisition of the 922 acres of land in accordance with this condition of certification. No later than 18 months from initiation of construction the Project owner shall provide written verification to the BLM's Authorized Officer, the CPM, and CDFG that no fewer than 922 acres of compensation lands or conservation easements have been acquired and recorded in favor of the approved recipient.	
BIO-22 The Project owner shall implement the following measures to avoid, minimize and mitigate for direct and indirect impacts to waters of the state and to satisfy requirements of California Fish and Game Code sections 1600 and 1607. 1. Acquire Off-Site State Waters: The Project owner shall acquire, in fee or in easement, a parcel or parcels of land that includes at least 1,384 acres of state jurisdictional waters, or the area of state waters directly or indirectly impacted by the final Project footprint. The Project footprint means all lands disturbed by construction and operation of the Blythe	No less than 30 days prior to the start of construction-related ground disturbance activities potentially affecting waters of the state, the Project owner shall provide written verification (i.e., through incorporation into the BRMIMP) to the CPM that the above best management practices will be implemented. The	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
Project, including all linears. The parcel or parcels comprising the 1,384 acres of ephemeral washes shall include at least 639 acres of desert dry wash woodland or the acreage of desert dry wash woodland impacted by the final Project footprint at a 3:1 ratio. The terms and conditions of this acquisition or easement shall be as described in Condition of Certification **BIO-12** and the timing associated with **BIO-28** (phasing). Mitigation for impacts to state waters shall be within the Chuckwalla Valley or Colorado River Hydrological Units (HUs), as close to the Project site as practicable. 2. Security for Implementation of Mitigation: The Project owner shall provide financial assurances to the CPM and CDFG to guarantee that an adequate level of funding is available to implement the acquisitions and enhancement of state waters as described in this condition. These funds shall be used solely for implementation of the measures associated with the Project. Financial assurance can be provided to the CPM and CDFG in the form of an irrevocable letter of credit, a pledged savings account or Security prior to initiating ground-disturbing Project activities. Prior to submittal to the CPM, the Security shall be approved by the CPM and BLM's Authorized Officer, in consultation with CDFG and the USFWS, to ensure funding. The final amount due will be determined by and updated appraisal and aPAR analysis conducted pursuant to **BIO-12**. 3. Preparation of Management Plan: The Project owner shall submit to the CPM and CDFG a draft Management Plan that reflects site-specific enhancement measures for the drainages on the acquired compensation lands. The objective of the Management Plan shall be to enhance the wildlife value of the drainages, and may include enhancement actions such as weed control, fencing to exclude livestock, or erosion control. 4. Code of Regulations: The Project owner shall provide a copy of this condition (Condition of Certification **BIO-22**) from the Energy Commission Decision to all contractors, subcontractors, and the Applicant's Project supervisors. Copies shall be readily available at work sites at all times during periods of active work and must be presented to any CDFG personnel upon demand. The CPM reserves the right to issue a stop work order or allow CDFG to issue a stop work order after giving notice to the Project owner, the CPM, if the CPM in consultation with CDFG, determines that the Project owner has breached any of the terms or conditions or for other reasons, including but not limited to the following: a) The information provided by the Applicant regarding streambed alteration is incomplete or inaccurate; b) New information becomes available that was not known to it in preparing the terms and conditions; or c) The Project or Project activities as described in the Staff Assessment have changed. 5. Best Management Practices: The Project owner shall also comply with the following conditions to protect drainages near the Project Disturbance Area: a) The Project owner shall minimize road building, construction activities and vegetation clearing within ephemeral drainages to the extent feasible. b The Project owner shall not allow water containing mud, silt, or other pollutants from grading, aggregate washing, or other activities to enter ephemeral drainages or be placed in locations that may be subjected to high storm flows. c) The Project owner shall comply with all litter and pollution laws. All contractors, subcontractors, and employees shall also obey these laws, and it shall be the responsibility of the Project owner to ensure compliance.	Project owner shall also provide a discussion of work in waters of the state in Compliance Reports for the duration of the Project. No less than 30 days prior to beginning Project ground-disturbing activities, the Project owner shall provide the form of Security in accordance with this condition of certification. No later than 7 days prior to beginning Project ground-disturbing activities, the Project owner shall provide written verification of the actual Security. The Project owner, or an approved third party, shall complete and provide written verification of the proposed compensation lands acquisition within 18 months of the start of Project ground-disturbing activities. The Project owner, or an approved third party, shall provide BLM's Authorized Officer, the CPM, CDFG and USFWS with a management plan for the compensation lands and associated funds within 180 days of the land or easement purchase, as determined by the date on the title. The CPM and BLM's Authorized Officer shall review and approve the management plan, in consultation with CDFG. Within 90 days after completion of Project construction, the Project owner shall provide to the CPM and CDFG an analysis with the final accounting of the amount of jurisdictional state waters disturbed during Project construction. The Project owner shall provide written verification to BLM's Authorized Officer, the CPM, USFWS and CDFG that the compensation lands or conservation easements have been acquired and recorded in favor of the approved recipient no later than 18 months from adoption of the Final Energy Commission Decision for the Blythe Solar Power Project).	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
d) Spoil sites shall not be located at least 30 feet from the boundaries and drainages or in locations that may be subjected to high storm flows, where spoils might be washed back into drainages. e) Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources, resulting from Project-related activities, shall be prevented from contaminating the soil and/or entering waters of the state. These materials, placed within or where they may enter a drainage by the Project owner or any party working under contract or with the permission of the Project owner, shall be removed immediately. f) No broken concrete, debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete or washings thereof, oil or petroleum products or other organic or earthen material from any construction or associated activity of whatever nature shall be allowed to enter into, or placed where it may be washed by rainfall or runoff into, waters of the state. g) When operations are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of any drainage. h) No equipment maintenance shall occur within 150 feet of any ephemeral drainage where petroleum products or other pollutants from the equipment may enter these areas under any flow.	The Project owner shall notify the CPM and CDFG, in writing, at least five days prior to initiation of Project activities in jurisdictional state waters and at least five days prior to completion of Project activities in jurisdictional areas. The Project owner shall notify the CPM and CDFG of any change of conditions to the Project, impacts to state waters, or the mitigation efforts. The notifying report shall be provided to the CPM and CDFG no later than seven days after the change of conditions is identified. As used here, change of condition refers to the process, procedures, and methods of operation of a Project; the biological and physical characteristics of a Project area; or the laws or regulations pertinent to the Project as defined below. A copy of the notifying change of conditions report shall be included in the annual reports or until it is deemed unnecessary by the CPM and CDFG. Biological Conditions: a change in biological conditions includes, but is not limited to, the following: 1) the presence of biological resources within or adjacent to the Project area, whether native or non-native, not previously known to occur in the area; or 2) the presence of biological resources within or adjacent to the Project area, whether native or non-native, the status of which has changed to endangered, rare, or threatened, as defined in section 15380 of Title 14 of the California Code of Regulations. Physical Conditions: a change in physical conditions includes, but is not limited to, the following: 1) a change in the morphology of a river, stream, or lake, such as the lowering of a bed or scouring of a bank, or substantial changes in stream form and configuration caused by storm events; 2) the movement of a river or stream channel to a different location; 3) a reduction of or other change in vegetation on the bed, channel, or bank of a drainage, or 4) changes to the hydrologic regime such as fluctuations in the timing or volume of water flows in a river or stream. Legal Conditions: a change in legal conditions includes, but is not limited to, a change in Regulations,	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
	Statutory Law, a Judicial or Court decision, or the listing of a species, the status of which has changed to endangered, rare, or threatened, as defined in section 15380 of Title 14 of the California Code of Regulations.	
BIO-23 Upon Project closure the Project owner shall implement a final Decommissioning and Reclamation Plan. The Decommissioning and Reclamation Plan shall include a cost estimate for implementing the proposed decommissioning and reclamation activities, and shall be consistent with the guidelines in BLM's 43 CFR 3809.550 et seq.	No fewer than 30 days prior to the start of Project-related ground disturbing activities the Project owner shall provide to the CPM (for review) and BLM's Authorized Officer (for review and approval)a draft Decommissioning and Reclamation Plan. The plan shall be finalized prior to the start of commercial operation and reviewed every five years thereafter and submitted to the CPM for review and to the BLM's Authorized Officer for approval. Modifications to the approved Decommissioning and Reclamation Plan shall be made only after approval from BLM's Authorized Officer. The Project Owner shall provide a copy of the approved Decommissioning and Reclamation Plan and any BLM approved revisions to the CPM.	
BIO-24 The Project owner shall implement the following measures to avoid or minimize Project-related construction impacts to golden eagles. 1. Annual Inventory During Construction. For each calendar year during which construction will occur an inventory shall be conducted to determine if golden eagle territories occur within one mile of the Project boundaries. Survey methods for the inventory shall be as described in the Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations (Pagel et al. 2010) or more current guidance from the USFWS. 2. Inventory Data: Data collected during the inventory shall include at least the following: territory status (unknown, vacant, occupied, breeding successful, breeding unsuccessful); nest location, nest elevation; age class of golden eagles observed; nesting chronology; number of young at each visit; digital photographs; and substrate upon which nest is placed. 3. Determination of Unoccupied Territory Status: A nesting territory or inventoried habitat shall be considered unoccupied by golden eagles ONLY after completing at least 2 full surveys in a single breeding season. In circumstances where ground observation occurs rather than aerial surveys, at least 2 ground observation periods lasting at least 4 hours or more are necessary to designate an inventoried habitat or territory as unoccupied as long as all potential nest sites and alternate nests are visible and monitored. These observation periods shall be at least 30 days apart for an inventory, and at least 30 days apart for monitoring of known territories.	No fewer than 30 days from completion of the golden eagle inventory the project owner shall submit a report to the CPM, CDFG, and USFWS documenting the results of the inventory. If an occupied nest is detected within one mile of the Project boundary during the inventory the Project owner shall contact staff at the USFWS Carlsbad Office and CDFG within one working day of detection of the nest for interim guidance on monitoring and nest protection. The project owner shall provide the CPM, CDFG, and USFWS with the final version of the Golden Eagle Monitoring and Management Plan within 30 days after detection of the nest. This final Plan shall have been reviewed and approved by the CPM in consultation with USFWS and CDFG.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
4. Monitoring and Adaptive Management Plan: If an occupied nest[7] is detected within one mile of the Project boundaries, the Project owner shall prepare and implement a Golden Eagle Monitoring and Management Plan for the duration of construction to ensure that Project construction activities do not result in injury or disturbance to golden eagles. The monitoring methods shall be consistent with those described in the Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations (Pagel et al. 2010) or more current guidance from the USFWS. The Monitoring and Management Plan shall be prepared in consultation with the USFWS. Triggers for adaptive management shall include any evidence of Project-related disturbance to nesting golden eagles, including but not limited to: agitation behavior (displacement, avoidance, and defense); increased vigilance behavior at nest sites; changes in foraging and feeding behavior, or nest site abandonment. The Monitoring and Management Plan shall include a description of adaptive management actions, which shall include, but not be limited to, cessation of construction activities that are deemed by the Designated Biologist to be the source of golden eagle disturbance.		
BIO-25 The Project owner shall cover the evaporation ponds prior to any discharge with 1.5-inch mesh netting designed to exclude birds and other wildlife from drinking or landing on the water of the ponds. Netting with mesh sizes other than 1.5-inches may be installed if approved by the CPM in consultation with CDFG and USFWS. The netted ponds shall be monitored regularly to verify that the netting remains intact, is fulfilling its function in excluding birds and other wildlife from the ponds, and does not pose an entanglement threat to birds and other wildlife. The ponds shall include a visual deterrent in addition to the netting, and the pond shall be designed such that the netting shall never contact the water. Monitoring of the evaporation ponds shall include the following: 1. Monthly Monitoring. The Designated Biologist or Biological Monitor shall regularly survey the ponds at least once per month starting with the first month of operation of the evaporation ponds. The purpose of the surveys shall be to determine if the netted ponds are effective in excluding birds, if the nets pose an entrapment hazard to birds and wildlife, and to assess the structural integrity of the nets. The monthly surveys shall be conducted in one day for a minimum of two hours following sunrise (i.e., dawn), a minimum of one hour mid-day (i.e., 1100 to 1300), and a minimum of two hours preceding sunset (i.e., dusk) in order to provide an accurate assessment of bird and wildlife use of the ponds during all seasons. Surveyors shall be experienced with bird identification and survey techniques. Operations staff at the Project site shall also report finding any dead birds or other wildlife at the evaporation ponds to the Designated Biologist within one day of the detection of the carcass. The Designated Biologists shall report any bird or other wildlife deaths or entanglements within two days of the discovery to the CPM, CDFG, and USFWS. 2. Dead or Entangled Birds. If dead or entangled birds are detected, the Designated Biologist shall take immediate action to correct the source of mortality or entanglement. The Designated Biologist shall make immediate efforts to contact and consult the CPM, CDFG, and USFWS by phone and electronic communications prior to taking remedial action upon detection of the problem, but the inability to reach these parties shall not delay taking action that would, in the judgment of the Designated Biologist, prevent further mortality of birds or other wildlife at the evaporation ponds.	No less than 30 days prior to operation of the evaporation ponds the Project owner shall provide to the CPM as-built drawings and photographs of the ponds indicating that the bird exclusion netting has been installed. For the first year of operation the Designated Biologist shall submit quarterly reports to the CPM, CDFG, and USFWS describing the dates, durations and results of site visits conducted at the evaporation ponds. Thereafter the Designated Biologist shall submit annual monitoring reports with this information. The quarterly and annual reports shall fully describe any bird or wildlife death or entanglements detected during the site visits or at any other time, and shall describe actions taken to remedy these problems.	

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[7] An occupied nest is one used for breeding by a pair of golden eagles in the current year. Presence of an adult, eggs, or young, freshly molted feathers or plucked down, or current years' mutes (whitewash) also indicate site occupancy. Additionally, all breeding sites within a breeding territory are deemed occupied while raptors are demonstrating pair bonding activities and developing an affinity to a given area. If this culminates in an individual nest being selected for use by a breeding pair, then the other nests in the nesting territory will no longer be considered occupied for the current breeding season. A nest site is considered occupied throughout the periods of initial courtship and pair bonding, egg laying, incubation, brooding, fledging, and post fledging dependency of the young.

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
3. Quarterly Monitoring. If after 12 consecutive monthly site visits no bird or wildlife deaths or entanglements are detected at the evaporation ponds by or reported to the Designated Biologist, monitoring can be reduced to quarterly visits. 4. Biannual Monitoring. If after 12 consecutive quarterly site visits no bird or wildlife deaths or entanglements are detected by or reported to the Designated Biologist and with approval from the CPM, USFWS and CDFG, future surveys may be reduced to two surveys per year, during the spring nesting season and during fall migration. If approved by the CPM, USFWS and CDFG, monitoring outside the nesting season may be conducted by the Environmental Compliance Manager. 5. Modification of Monitoring Program. Without respect to the above requirements the Project owner, CDFG or USFWS may submit to the CPM a request for modifications to the evaporation pond monitoring program based on information acquired during monitoring, and may also suggest adaptive management measures to remedy any problems that are detected during monitoring or modifications if bird impacts are not observed. Modifications to the evaporation pond monitoring described above and implementation of adaptive management measures shall be made only after approval from the CPM, in consultation with USFWS and CDFG. In addition, the Project owner shall prepare and implement measures that will prevent Couch's spadefoot toads from using the evaporative basins (see Condition of Certification **BIO-26**)		
BIO-26 The Project owner shall prepare and implement a Couch's Spadefoot Toad Protection and Mitigation Plan (Protection and Mitigation Plan) to avoid, minimize or mitigate impacts to Couch's spadefoot toads and their breeding habitat during construction and operation of the Project. The Protection and Mitigation Plan shall be approved by the CPM in consultation with CDFG, and shall be incorporated into the Project's BRMIMP and implemented. It is expected that, as currently proposed, the Project would impact three potential breeding ponds. The Protection and Mitigation Plan shall address methods to achieve this avoidance and minimization, and shall include avoidance, minimization, and mitigation measures that would be required if additional habitat or Couch's spadefoot toad are found during habitat surveys. The Protection and Mitigation Plan shall include, at a minimum: 1. Habitat Survey Results: a) Survey methodology that focuses on areas that are susceptible to ponding (such as areas that are disturbed and/or artificially compacted); b) Survey results, including a detailed discussion of potential breeding sites, and a description of areas determined not to include breeding habitat; and c) Figures showing the areas surveyed and the location of potential breeding habitat in relation to proposed Project features. 2. Impacts Assessment from: a) Habitat disturbance from construction; b) Noise from construction, operations, and potential ORV traffic;	No less than 30 days prior to any Project-related ground disturbance, the Project owner shall submit to the CPM and CDFG, a final Protection and Mitigation Plan. The Protection and Mitigation Plan shall address on-site protection and mitigation measures to be implemented during construction. Modifications to the Protection and Mitigation Plan shall be made only after approval from the CPM, in consultation with CDFG. If the Protection and Mitigation Plan includes creation of ponds, the number and acreage of created ponds shall be described in the plan. No less than 90 days prior to operation of project the Project owner shall provide to the CPM as-built drawings and photographs of the created ponds and maps showing the size and location of the ponds in relation to project features. On January 31st of every year following initiation of operation of the Project the Project owner shall submit reports to the CPM documenting the capacity of the created ponds to hold water for at least 9 days during the spadefoot toad breeding season. If ponds fail to hold water as described above the Project owner shall implement remedial actions. The annual reporting may be terminated upon satisfactory demonstration of this	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
c) Increased access for vehicles from road construction or improvements; d) Changes in breeding habitat due to changes in flow levels and flow patterns to breeding ponds; e) Increased traffic from construction and operations; f) Risk of exposure to elevated selenium and salinity levels in evaporative ponds; and g) Increased risk of predation. 3. Avoidance and Minimization Measures: a) Description of measures that would be implemented to avoid impacts to potential breeding ponds, such as design strategies; protective fencing or other barriers, worker's education, minimizing construction traffic within the vicinity of breeding ponds, and biological monitoring; b) Designation of a Management Area around breeding ponds that includes an appropriate upland buffer, and a description of measures used to minimize impacts within this buffer; and c) Design and operation measures that will bar individuals from entering evaporative ponds. 4. Mitigation: If complete avoidance of the ponds or other breeding sites identified during surveys is not possible, the Protection and Mitigation Plan shall include plans to create additional breeding habitats (ephemeral pond) at least equal in area to the acreage of ponds being impacted. Alternatively, the Project owner may purchase mitigation land that has the potential for ponding that is equal to or greater than the ponds identified as potential Toad breeding ponds within the Project disturbance area. If ponds are to be created, the created ponds shall be capable of holding water for at least nine days during the spadefoot toad breeding season. The created ponds shall be monitored and managed to ensure fulfillment of this performance standard by site visits at the pond following summer rainfall events. If the created ponds fail to achieve this standard, remedial action shall be implemented (for example, by compacting the soil in the pond to increase water-holding capacity). If compensation lands are acquired, the Project owner shall provide funding for the acquisition in fee title or in easement, initial habitat improvements and long-term maintenance and management of the compensation lands. a) Criteria for Mitigation Lands: If the applicant chooses to mitigate in whole or in part by purchasing habitat: i. The applicant shall purchase habitats in fee title or easement within the known range of the Couch's spadefoot toad. The habitat shall have similar characteristics to those impacted on site including 1. artificial or natural depressions should be deep enough to have the potential to support the Couch's spade foot toad 2. depressions should have potential to pond water for nine days 3. adjacent uplands should have potential to provide refugia and foraging habitat 4. other characteristics that a trained biologist would employ in designating potential habitat for the species	performance standard, and with approval of the CPM. If mitigation land is purchased as an alternative to pond creation, the Project owner shall provide the CPM and CDFG with an approved form of Security and the calculation of such security in accordance with this condition of certification and **BIO-12** no later than 30 days prior to beginning Project ground-disturbing activities. Actual Security shall be provided no later than 7 days prior to the beginning of Project ground-disturbing activities. If Security is provided, the Project owner, or an approved third party, shall complete and provide written verification of the proposed compensation lands acquisition within 18 months of the start of Project ground-disturbing activities. No less than 90 days prior to acquisition of the property, the Project owner shall submit a formal acquisition proposal to the CPM, CDFG and USFWS describing the parcels intended for purchase. The Project owner, or an approved third party, shall provide the CPM, CDFG and USFWS with a management plan for the compensation lands and associated funds within 180 days of the land or easement purchase, as determined by the date on the title. The CPM shall review and approve the management plan, in consultation with CDFG. The Project owner shall provide written verification to the CPM, and CDFG that the compensation lands or conservation easements have been acquired and recorded in favor of the approved recipient no later than 18 months from the start of ground-disturbing activities.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
ii. If the above criteria are met, these habitats may overlap on other lands preserved by the applicant for other mitigation (e.g., desert tortoise habitat within Northern and Eastern Colorado Desert Coordinated Management) and shall: 1. Provide quality habitat for Couch's spadefoot toad, that has the capacity to regenerate naturally when disturbances are removed; 2. Not have a history of intensive recreational use or other disturbance that might make habitat recovery and restoration infeasible; 3. Not be characterized by high densities of invasive species, either on or immediately adjacent to the parcels under consideration, that might jeopardize habitat recovery and restoration; 4. Not contain hazardous wastes that cannot be removed to the extent the site is suitable for habitat; 5. Not be subject to property constraints (i.e. mineral leases, cultural resources); and 6. Be on land for which long-term management is feasible. b) Security for Implementation of Mitigation: The Project owner shall provide financial assurances to the CPM to guarantee that an adequate level of funding is available to implement the acquisitions and enhancement of Couch's spadefoot toad habitat as described in this condition. These funds shall be used solely for implementation of the measures associated with the Project. Financial assurance can be provided to the CPM and according to the measures outlined in **BIO-12**, and within the time period specified for this assurance (see the verification section at the end of this condition). The final amount due will be determined by an updated appraisal and a PAR analysis conducted as described in **BIO-12**.		
BIO-27 The Project owner may choose to satisfy its mitigation obligations by paying an in lieu fee instead of acquiring compensation lands, pursuant to Fish and Game code sections 2069 and 2099 or any other applicable in-lieu fee provision, to the extent the in-lieu fee provision is found by the Commission to mitigate the impacts identified herein.	If electing to use this provision, the Project owner shall notify the Commission that it would like a determination that the Project's in-lieu fee proposal mitigate for the impacts identified herein.	
BIO-28 The Project Owner shall provide compensatory mitigation for the total Project Disturbance Area and may provide such mitigation in three phases, Phase 1a, Phase 1b, and Phase 2, as described in Palo Verde Solar 1, LLC's Proposed Phased Construction and Mitigation (Galati & Blek [tn:57593]. Palo Verde Solar 1, LLC's Proposed Phased Construction and Mitigation: Blythe Solar Power Project Docket No. (09-AFC-6), dated July 15, 2010.). "Project Disturbance Area" encompasses all areas to be temporarily and permanently disturbed by the Project. Project construction will occur in three phases that generally follow development of the solar units, with the exception of the first phase of the Project, Phase 1a, which will consist of two types of construction areas: (1) linear facilities, including the access road and communication lines and (2) non-linear facilities to include a staging/laydown area and a portion of the Unit 1 solar block area. Phase 1b shall consist of the remainder of Unit 1 and Unit 2, and Phase 2 shall consist of the remainder of the Project (Units 3 and 4). These phases will generally include installation of fencing, clearing, grubbing and grading, and development	No less than 30 days prior to the start of desert tortoise clearance surveys for each phase, the Project owner shall submit a description of the proposed construction activities for that phase to CDFG, USFWS and BLM for review and to the CPM for review and approval. The description for each phase shall include the proposed construction schedule, a figure depicting the locations of proposed construction and amount of acres of each habitat type to be disturbed.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		

of common facilities first, followed by the remaining power block units. All construction activities for the non-linear features during these subsequent phases will occur within desert tortoise exclusionary fenced areas that have been cleared in accordance with USFWS protocols.

The disturbance area for each project Phase and resource type is provided in the tables below. This table shall be refined prior to the start of each construction phase with the disturbance area adjusted to reflect the final Project footprint for each phase. Prior to initiating each phase of construction the Project owner shall submit the actual construction schedule, a figure depicting the locations of proposed construction and amount of acres to be disturbed. Mitigation acres are calculated based on the compensation requirements for each resource type as described in the above Conditions of Certification – BIO-12 (Desert Tortoise), BIO-20 (Mojave Fringe-toed Lizard), BIO-18 (Western Burrowing Owl), and BIO-22 (State Waters). Compensatory mitigation for each phase shall be implemented according to the timing required by each condition.

	Desert Tortoise		MFTL		WBO	
Phase	Impact (acres)	Mitigation (acres)	Impact (acres)	Mitigation (acres)	Impact (individuals/pairs)	Mitigation (acres)
Phase 1a	769	769	0	0	0	0
Phase 1b	2,995	2,995	58	174	1	19.5
Phase 2	3,193	3,193	0	0	1	19.5
Total	6,958	6,958	58	174	2	39

	State Waters – Direct		State Waters – Indirect	
Phase	Impact (acres)	Mitigation (acres)	Impact (acres)	Mitigation (acres)
Phase 1a	67	130	0	0
Phase 1b	231	409	36	51
Phase 2	294	665	146	189
Total	593	1,205	133	179

The Project owner shall not disturb any area outside of the area that has been approved for that phase of construction and for the previously approved phases of construction.

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
PROPOSED CONDITIONS OF CERTIFICATION/MITIGATION		
VIS-1 The project owner shall treat the surfaces of all project structures and buildings visible to the public such that a) their colors minimize visual intrusion and contrast by blending with (matching) the existing characteristic landscape colors; b) their colors and finishes do not create excessive glare; and c) their colors and finishes are consistent with local policies and ordinances. The transmission line conductors shall be non-specular and non-reflective, and the insulators shall be non-reflective and non-refractive. Following in-field consultation with the Energy Commission/BLM Visual Resources specialist and other representatives as deemed necessary, the project owner shall submit for Compliance Project Manager (CPM) review and approval, a specific Surface Treatment Plan that will satisfy these requirements. The treatment plan shall include: A. A description of the overall rationale for the proposed surface treatment, including the selection of the proposed color(s) and finishes based on the characteristic landscape. Colors will be field-tested using the actual distances from the KOPs to the proposed structures, using the proposed colors painted on representative surfaces. B. A list of each major project structure, building, tank, pipe, and wall; the transmission line towers and/or poles; and fencing, specifying the color(s) and finish proposed for each. Colors must be identified by vendor, name, and pantone number; or according to a universal designation system; C. One set of color brochures or color chips showing each proposed color and finish; D. A specific schedule for completion of the treatment; and E. A procedure to ensure proper treatment maintenance for the life of the project. The project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture, or perform the final treatment on any buildings or structures treated in the field, until the project owner receives notification of approval of the treatment plan by the CPM. Subsequent modifications to the treatment plan are prohibited without CPM approval.	At least 90 days prior to specifying to the vendor the colors and finishes of the first structures or buildings that are surface treated during manufacture, the project owner shall submit the proposed treatment plan to the CPM for review and approval and simultaneously to Riverside County for review and comment. If the CPM determine that the plan requires revision, the project owner shall provide to the CPM a plan with the specified revision(s) for review and approval by the CPM before any treatment is applied. Any modifications to the treatment plan must be submitted to the CPM for review and approval. Prior to the start of commercial operation, the project owner shall notify the CPM that surface treatment of all listed structures and buildings has been completed and they are ready for inspection and shall submit to each one set of electronic color photographs from the same key observation points identified in (d) above. The project owner shall provide a status report regarding surface treatment maintenance in the Annual Compliance Report. The report shall specify a): the condition of the surfaces of all structures and buildings at the end of the reporting year; b) maintenance activities that occurred during the reporting year; and c) the schedule of maintenance activities for the next year.	CEC/BLM
VIS-2 The project owner shall revegetate disturbed soil areas to the greatest practical extent, as described in Condition of Certification **BIO-8**. In order to address specifically visual concerns, the required Closure, Revegetation and Rehabilitation Plan shall include reclamation of the area of disturbed soils used for laydown, project construction, and siting of the other ancillary operation and support structures.	Refer to Condition of Certification **BIO-8**	CEC/BLM
VIS-3 To the extent feasible, consistent with safety and security considerations, the project owner shall design and install all permanent exterior lighting and all temporary construction lighting such that a) lamps and reflectors are not visible from beyond the project site, including any off-site security buffer areas; b) lighting does not cause excessive reflected glare; c) direct lighting does not illuminate the nighttime sky, except for required FAA aircraft safety lighting (which should be an on-demand, audio-visual warning system that is triggered by radar technology); d) illumination of the project and its immediate vicinity is minimized, and e) the plan complies with local policies and ordinances. The project owner shall submit to the CPM for review and approval and simultaneously to the County of Riverside for review and comment a lighting mitigation plan that includes the following:	At least 90 days prior to ordering any permanent exterior lighting or temporary construction lighting, the project owner shall contact the CPM to discuss the documentation required in the lighting mitigation plan. At least 60 days prior to ordering any permanent exterior lighting, the project owner shall submit to the CPM for review and approval and simultaneously to the County of Riverside for review and comment a	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
PROPOSED CONDITIONS OF CERTIFICATION/MITIGATION (cont.)		
A. Location and direction of light fixtures shall take the lighting mitigation requirements into account; B. Lighting design shall consider setbacks of project features from the site boundary to aid in satisfying the lighting mitigation requirements; C. Lighting shall incorporate fixture hoods/shielding, with light directed downward or toward the area to be illuminated; D. Light fixtures that are visible from beyond the project boundary shall have cutoff angles that are sufficient to prevent lamps and reflectors from being visible beyond the project boundary, except where necessary for security; E. All lighting shall be of minimum necessary brightness consistent with operational safety and security; and **F.** Lights in high illumination areas not occupied on a continuous basis (such as maintenance platforms) shall have (in addition to hoods) switches, timer switches, or motion detectors so that the lights operate only when the area is occupied.	lighting mitigation plan. If the CPM determine that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM. The project owner shall not order any exterior lighting until receiving CPM approval of the lighting mitigation plan. Prior to commercial operation, the project owner shall notify the CPM that the lighting has been completed and is ready for inspection. If after inspection, the CPM notify the project owner that modifications to the lighting are needed, within 30 days of receiving that notification the project owner shall implement the modifications and notify the CPM that the modifications have been completed and are ready for inspection. Within 48 hours of receiving a lighting complaint, the project owner shall provide the CPM with a complaint resolution form report as specified in the Compliance General Conditions including a proposal to resolve the complaint, and a schedule for implementation. The project owner shall notify the CPM within 48 hours after completing implementation of the proposal. A copy of the complaint resolution form report shall be submitted to the CPM within 30 days.	CEC/BLM
VIS-4 To the extent possible, the project owner will use proper design fundamentals to reduce the visual contrast to the characteristic landscape. These include proper siting and location; reduction of visibility; repetition of form, line, color (see VIS-1) and texture of the landscape; and reduction of unnecessary disturbance. Design strategies to address these fundamentals will be based on the following factors: **Earthwork:** Select locations and alignments that fit into the landforms to minimize the size of cuts and fills. Avoid hauling in or hauling out of excess earth cut or fill. Avoid rounding and/or warping slopes. Retain existing rock formations, vegetation, and drainage. Tone down freshly broken rock faces with emulsions or stains. Use retaining walls to reduce the amount and extent of earthwork. Retain existing vegetation by using retaining walls or fill slopes, reducing surface disturbance, and protecting roots from damage during excavations. Avoid soil types that generate strong color contrasts. Reduce dumping or sloughing of excess earth and rock on downhill slopes. **Vegetation Manipulation:** Retain as much of the existing vegetation as possible. Use existing vegetation to screen the development from public viewing. Use scalloped, irregular cleared edges to reduce line contrast. Use irregular clearing shapes to reduce form contrast. Feather and thin the edges of cleared areas and retain a representative mix of plant species and sizes.	As early as possible in the site and facility design, the project owner shall meet with BLM's Authorized Office and the CPM to discuss incorporation of these above factors into the design plans. At least 90 days prior to final site and facility design, the project owner shall contact the CPM to review the incorporation of the above factors into the final facility and site design plans. If the CPM determine that the site and facility plans require revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
PROPOSED CONDITIONS OF CERTIFICATION/MITIGATION (cont.)		
Structures: Minimize the number of structures and combine different activities in one structure. Use natural, self-weathering materials and chemical treatments on surfaces to reduce color contrast. Bury all or part of the structure. Use natural appearing forms to complement the characteristic landscape. Screen the structure from view by using natural land forms and vegetation. Reduce the line contrast created by straight edges. **Linear Alignments:** Use existing topography to hide induced changes associated with roads, lines, and other linear features. Select alignments that follow landscape contours. Avoid fall-line cuts and bisecting ridge tops. Hug vegetation lines and avoid open areas such as valley bottoms. Cross highway corridors and less sharp angles. **Reclamation and Restoration:** Reduce the amount of disturbed area and blend the disturbed areas into the characteristic landscape. Replace soil, brush, rocks, and natural debris over disturbed area. Newly introduce plant species should be of a form, color, and texture that blends with the landscape.		

APPENDIX H

Biological Cumulative Impact Analysis

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VEGETATION AND WILDLIFE (BIOLOGICAL RESOURCES) CUMULATIVE IMPACT ANALYSIS EXCERPTED[1] FROM THE CEC RSA JUNE 2010

C.2.8 CUMULATIVE IMPACT ANALYSIS

C.2.8.1 CEQA AND NEPA DEFINITIONS

A cumulative impact analysis is required under both CEQA and NEPA. "Cumulative impact" is the impact on the environment which results from the incremental impact of the proposed Project when considered with other past, present, and reasonably foreseeable future actions regardless of which agency (federal or non-federal) or person undertakes such other actions (40 CFR §1508.7).

Under CEQA Guidelines, "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts" (Title 14 Cal Code Regs §15130(a)(1)). Cumulative impacts must be addressed if the incremental effect of a project, combined with the effects of other projects is "cumulatively considerable" (Title 14Cal Code Regs §15130(a)). Such incremental effects are to be "viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (Title 14 Cal Code Regs §15164(b)(1)). Together, these projects comprise the cumulative scenario which forms the basis of the cumulative impact analysis.

NEPA states that cumulative effects can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR §1508.7). Under NEPA, both context and intensity are considered. When considering intensity of an effect, we consider "whether the action is related to other actions with individually minor but cumulatively significant impacts. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts." 40 CFR §1508.27(b)(7)

H.1 Analysis of Cumulative Effects to Biological Resources

Staff used the following steps to develop the cumulative effects analysis described in this subsection:

- Identified resources to consider in the analysis;
- Defined the study area for each resource;
- Described the current health and historical context for each resource;
- Identified direct and indirect impacts of the proposed Project that might contribute to a cumulative impact;
- Identified other reasonably foreseeable actions that affect each resource;

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[1] For ease to readers, figure references have been updated, where applicable, to refer to figures included in this PA/FEIS, Appendix A.

- Assessed potential cumulative impacts;
- Reported the results, and;
- Assessed the need for mitigation.

C.2.8.2 GEOGRAPHIC SCOPE

This cumulative impact analysis makes a broad, regional evaluation of the impacts of existing and reasonably foreseeable future projects that threaten plant and animal communities within the context or geographic scope of the Northern and Eastern Colorado Desert Coordinated Management Plan (NECO) (BLM-CDD 2002). The NECO planning area is located in the southeastern California Desert Conservation Area (CDCA). It occurs primarily in the Sonoran Desert region but include a smaller portion of the southern Mojave Desert region. For most resources the analysis focused in particular on renewable projects proposed on BLM, State and private land in the I-10 corridor between Desert Center and the Colorado River, just east of Blythe in eastern Riverside County. For some resources, a different geographic scope was warranted, such as the use of watershed boundaries to analyze cumulative effects to desert washes, or the Chuckwalla Valley region for populations or dune systems restricted to that geographic area.

C.2.8.3 REGIONAL OVERVIEW

This overview of regional impacts is followed by a more detailed discussion of the effects of past, present, and future projects to biological resources of the Project vicinity, with an emphasis on resources found within the Chuckwalla Valley of eastern Riverside County.

The California Desert remained a desolate area for the first few decades of the 20th century. Disturbance was more or less restricted to highways, railroad, and utility corridors, scattered mining, and sheep grazing. In the 1940s, several large military reservations were created for military training, testing, and staging areas, including the Blythe Project site.

Nevertheless, populations of many of the desert's sensitive plants and animals were considered relatively stable until recently, as the push for renewable energy development has placed many populations at risk. Climate change is inarguably one of the biggest environmental challenges of our time; however, renewable energy development has its own ecological consequences and portions of the Sonoran and Mojave deserts of California are bearing the brunt of these effects. Energy providers have submitted project applications that would collectively cover more than one million acres of the region (BLM 2010). Poorly planned development could contribute to habitat loss and fragmentation and barriers to species movement and gene flow. Although project permitting and regional planning evaluate basic environmental impacts of such projects, rarely do they consider impacts on connectivity or conduct thorough cumulative effects analyses. Some of the many sensitive biological resources at risk include: desert washes and desert dry wash woodland, desert tortoise, Nelson's bighorn sheep, Mojave fringe-toed lizard (including an important local population), western burrowing owl, fragile dune ecosystems, a wide variety of special-status wildlife, and the sensitive plants Las Animas colubrina, Harwood's milk-vetch, and Harwood's phlox.

The incremental, direct loss of habitat and individuals is more significant when considered with the significant indirect effects of fragmentation and its effects on gene flow, disrupted wildlife movement and connectivity, the introduction and spread of non-native plant species and increases in predators such as ravens has also contributed to population declines and range contractions for many special-status plant and animal species (Boarman 2002a). Combined with the effects of historical grazing and military training, agriculture, and highway construction, the proposed wind and solar energy projects have the potential to further reduce and degrade native plant and animal populations, in particular sensitive species such as desert tortoise. In the context of this large scale habitat loss, the Blythe Project would contribute, at least incrementally, to the cumulative loss and degradation of habitat for desert plants and wildlife, including desert tortoise, within Sonoran Desert region of southeastern California.

C.2.8.4 MAKING CONCLUSIONS ABOUT THE SEVERITY OR SIGNIFICANCE OF THE EFFECT

“No net loss” does not necessarily mean no cumulative impacts; the analysis of each resource also describes the indirect and cumulative effects that cannot be quantified through a GIS analysis of habitat impacts. Similarly, even seemingly minor impacts can be cumulatively considerable if they affect an extremely rare or limited resource; the cumulative impact may be substantial.

For each cumulative effect the following questions were considered in making conclusions about the severity or significance of an effect:

- The health, status or condition of the resource as a result of past, present and reasonably foreseeable impacts;
- The contribution of the proposed Project to the overall cumulative impact to the resource;
- The Project's mitigated effect, when added to the effects of these planned future projects, and
- Impact avoidance and minimization: any Project design changes that were made, or additional opportunities that could be taken, to avoid and minimize potential impacts in light of cumulative impact concerns.

The standard for a cumulative impacts analysis is defined by the use of the term "collectively significant" in the CEQA Guidelines section 15355; the analysis must assess the collective or combined effect of development. Cumulative impact assessments cannot conclude that contributions to cumulative impacts are not significant because the contributions represent a small percentage of the overall problem. Doing so could improperly omit facts relevant to an analysis of the collective effect that the Project and other related projects would have upon biological resources. The result could be approval of projects based on an analysis that avoided evaluating the severity of impacts which, when taken in isolation appear insignificant, but when viewed together appear significant.

C.2.8.5 ANALYTIC TOOLS AND STUDY LIMITATIONS

This cumulative effects analysis employed a combination of quantitative and qualitative analyses: a Geographic Information System (GIS)-based quantitative analysis for assessing the direct cumulative effects to habitat loss, and a qualitative analysis of the cumulatively considerable indirect effects, based on consultations with agency biologists and regional experts, as well as a literature review of the threats to species and their habitats.

GIS-BASED QUANTITATIVE ANALYSIS OF HABITAT LOSS

The GIS-based analysis of direct habitat loss was used for this cumulative effects analysis to:

- Identify the overlap between existing and future projects and various biological data layers (e.g. landforms, soils, species occurrences, hydrographic data, vegetation mapping, wildlife habitat models, ownership and management layers);
- Compile digital map information about each resource for purposes of display and analysis; and
- Create statistical tables to summarize the direct impacts to these resources from existing and anticipated future projects, and the Project's contribution to those effects. Information on the datasets used, the sources of the data, and any limitations of the data, are provided in each biological resource section.

QUALITATIVE ANALYSIS OF INDIRECT EFFECTS

GIS is a widely used and effective tool for analyzing large amounts of spatial data, for documenting and quantifying assumptions about direct habitat loss, and for analyzing the value of the habitat (where habitat models are available). However, the indirect impacts of projects are not easily captured in GIS and thus were only addressed qualitatively. This is important to note because many of these indirect effects (i.e., effects following construction) have greater significance and greater ecological consequences than the original habitat loss. Of particular concern are the effects of habitat fragmentation and its consequences for population viability and the effects of disrupted wildlife movement and connectivity and its effects on gene flow, subjecting populations of species such as bighorn sheep to isolation and inbreeding depression, and reducing their adaptability to climate change.

Other common themes that arose in this qualitative analysis of indirect cumulative effects include: increased vehicle-related mortality; disturbance from noise, lighting, and increased human activity; increase in predators such as ravens; spread of invasive non-native plants; downwind effects of facilities and wind fencing on sand transport corridors; bird collisions and electrocutions; climate change and its accompanying increased risk of drought, fire, and spread of invasive non-native plants; and the downstream effects of channel diversions on fluvial sediment transport and riparian vegetation.

LIMITATIONS OF THE CUMULATIVE PROJECT DATA AND DATASETS

The large renewable projects proposed on BLM and private land that made up the dataset of future projects in the cumulative analysis for Biological Resources (**Biological Resources Table 9**) represent only those projects that had applications to the BLM, the Energy Commission, or eastern Riverside County as of January 2010 (the time of the analysis). **Figure 9** and **Figure 56** include projects for which staff had no GIS-based shapefiles at the time of the analysis; thus, they were not included in the quantitative analysis. The project list changes frequently; updates to the data used are presented below and in Section B.3.2, **Cumulative Scenario**. Further, not all of the projects shown on the table will complete the environmental review, and not all projects will be funded and constructed. Alternatively, it is possible, even likely, that new projects will be proposed in the near future that are not reflected in this analysis. See Section B.3.2 (**Cumulative Scenario**) for a discussion on the likelihood of development of the renewable projects on BLM and private lands listed in **Biological Resources Table 9** and illustrated in **Figure 9** and **Figure 56**.

This analysis does not compare the loss of individuals against the total known metapopulation; population data are incomplete for many or most species or occurrences and for some species can vary widely from year to year in response to drought.

Finally, in the GIS-based analysis, which requires the use of datasets that encompass the entire geographic scope of the analysis, the Project-specific survey data could not be compared against data for the region that was derived from different methodologies. For example, the Project survey data for waters of the state and habitat is generally based on field surveys. Conversely, the NECO datasets for plant communities and habitats are based largely on aerial photo interpretation. Consequently, the GIS analysis of impacts to plant communities, landforms, and habitats is based on region-wide datasets for those resources (primarily NECO datasets), and not on Project survey data. Acreages listed in the analysis below, for example desert wash woodland or sand dunes, will not match the Project-specific survey results. Where there are such differences, they are noted in a footnote to the table or in the summary of a specific analysis. Notwithstanding the challenges presented by comparing region-wide and Project-specific datasets, the GIS-based datasets for vegetation and landforms still provide a powerful and efficient tool for conducting large-scale, region-wide analyses.

C.2.8.6 PROJECTS CONTRIBUTING TO CUMULATIVE EFFECTS TO BIOLOGICAL RESOURCES

This analysis evaluates the impacts of the proposed Project in addition to the current baseline of past effects, present (existing) projects, and reasonably foreseeable or probable future projects in the I-10 corridor as well as the greater NECO planning area. **Figure 9,** at the end of this section, illustrates the numerous proposed renewable projects on BLM, State, and private land in the I-10 corridor between Desert Center and the Colorado River, just east of Blythe in eastern Riverside County. **Figure 56** encompasses the entire NECO planning area, an area that is roughly equivalent to the boundaries of the Northern and Eastern Colorado Desert Recovery Unit for desert tortoise. **Biological Resources Table 9** lists the existing and foreseeable future projects (proposed) that were included in the quantitative analysis of cumulative effects. See Section B.4, **Figures 1** and **9** and **Cumulative Scenario Tables 2** and **3** for descriptions of these existing and future proposed projects.

Biological Resources Table 9
Existing and Proposed Future Projects Considered in Cumulative Effects Analysis

Existing Projects (analyzed quantitatively)	ROW Area* (ac)	Foreseeable Future Projects * [Proposed] (analyzed quantitatively)	ROW Area* (ac)
Chuckwalla State Prison	1044	**Palen Solar Power Project ****	2974
Ironwood State Prison	681	**Blythe Solar Power Project (BSPP)****	7239
Eagle Mountain Pumping Plant (MDWSC)	378	**NextEra Energy – McCoy** (Solar)	20560
Kaiser Mine	5773	**Genesis Solar Energy Project****	1768
I-10 Corridor (200ft Freeway buffer from CL)	6494	**Bull Frog Green Energy – Big Maria Vista** (Solar)	22663
State highways (50ft Highway buffer from CL)	2640	**Chuckwalla Solar 1**	4091
DPV2 Transmission Line (100ft T-line Tower Buffer)	2526	**Rice Solar Energy Project**	3859
DPV2 T-Line Existing Roads (10ft Buffer from CL)	335	**Desert Quartzite** (Solar)	7530
Blythe Energy Project I***	154	**Desert Sunlight** (Solar)	5119
Projects Considered Qualitatively	**Area (ac)**	**EnXco** (Solar)	1325
Existing		**Chuckwalla Valley Raceway**	493
BLM Campgrounds – Wiley's Well, Coon Hollow, Cottonwood Spring, and Midland Long-Term Visitor Area	n/a	**Mule Mountain Solar Project**	6618
BLM Off-Road Vehicle- authorized/designated routes in Meccacopia SRMS. Unauthorized use in Chuckwalla Valley	n/a	**Eagle Mountain Pumped Storage Project**	252
BLM Grazing – Cattle and sheep allotments (Lazy Daisy, Chemehuevi, Rice Valley, and Ford Dry Lake (recently closed)	n/a	**Paradise Valley Residential "New Town" development)**	6724
BLM Multiple Use – Intensive multiple-use classes	n/a	**Blythe Airport Solar I Project**	639
Gen. Patton military training areas	n/a	**Eagle Mountain Landfill**	1633
Colorado Aqueduct – open portions	n/a	**Blythe Energy Project II**	153
Chocolate Mountains Aerial Gunnery Range	n/a	**DPV2 Proposed Roads** (2-foot width)	27
Agricultural and Urban development north & south of I-10 at Blythe	150,272	**DPV2 Proposed Towers** (100 sq ft/tower)	229
Desert Center – agriculture and urban, abandoned jojoba farms	n/a	**Genesis Solar Project Access Road**	29
Blythe Airport	n/a	**Blythe Energy Project Transmission Line Towers**	148
		Genesis Solar Project Gas Line (100 foot width)	85
		Red Bluff Substation – for Palen Solar Power Project	n/a
	44	**Colorado Substation –** for Blythe Solar Power Project	44
	n/a	**Four approved commercial and 12 residential developments near Blythe**	n/a
	n/a	**Solar Projects at Arizona border**	n/a

Existing Projects (analyzed quantitatively)	ROW Area* (ac)	Foreseeable Future Projects * [Proposed] (analyzed quantitatively)	ROW Area* (ac)
	n/a	**BLM Renewable Energy Study Areas** (future, proposed)	n/a
	n/a	**BLM Transmission Corridors**	n/a
		Total BLM Solar and Wind Renewable Projects - 01/15/2010	**331,283 acres**

*Includes only renewable energy projects that had submitted a Plan of Development (POD) as of the time of the analysis (02/05/2010) and projects for which area data was available. Acreage shown for existing disturbances reflects only those projects for which area data was available. Not all of the projects depicted here will complete the environmental review, not all projects will be funded and constructed, and many will not use the entire ROW area

**Acreage impacts depicted reflect the project footprint only; not the entire ROW. The unused portions of the ROW will be returned to BLM and not included in the final ROW permit

*** UFWS issued a BO for this project in 2001 and it's currently being constructed

H.1 Project Information Updates

Since **Biological Resources Table 9** was compiled and the GIS analysis conducted, several changes have occurred, as follows:

- The Altera Black Hills project included in the impact calculations has been denied by the BLM.
- The LightSource Renewables – Mule Mountain II project, which is an active application in to the BLM, was not included in the impact calculations.
- The Pacific Solar Investments – Ogilby project has refined the project boundaries from those used in the impact calculations.

C.2.8.7 ANALYSIS OF CUMULATIVE EFFECTS TO BIOLOGICAL RESOURCES

H.1 Waters of the State

The geographic scope for the analysis of cumulative impacts to waters of the state includes the Palo Verde watershed and a separate analysis of the greater NECO planning area. The analysis was based on the USGS National Hydrographic Dataset (2010) within the watershed boundary as defined by the California Interagency Watershed Map of 1999 (Calwater 2.2.1).

The primary hydrologic feature in the watershed is McCoy Wash, a tributary of the Colorado River. Staff analyzed the cumulative effects within the context of the Project watershed as it would be disproportionately affected by future solar projects. There has also been considerable agricultural and urban development in this watershed, relative to other watersheds in the region, due to its proximity to the City of Blythe and the Colorado River (see **Figure 9** and **Figure 56**). Other existing impacts include: Blythe Airport, urban development, Blythe Energy Project, and the Devers-Palo Verde Transmission Line. In addition to the proposed Project, foreseeable future projects include: four approved commercial projects and twelve residential, Colorado River Substation, Blythe Energy Transmission Line, NextEra McCoy solar trough project, McCoy Soleil solar power tower, Big Maria Vista, and the Blythe Airport solar photovoltaic projects.

The dataset for existing and future projects, which was limited to available GIS-based spatial data, does not include the large agricultural areas north and south of I-10 or the many residential and commercial projects planned within the watershed. Therefore, the quantitative analysis could be said to under-represent the number of projects; however, it over-estimates, to some degree, the actual impacts of the future BLM Renewable projects because the entire right-of-way (ROW) was included in the calculations; the two projects north of the Project are expected to have an actual project impact much smaller than the ROW shown in **Figure 18** (Desert Washes- Palo Verde Watershed).

The direct loss of desert washes analyzed here is only part of the bigger picture; cumulative effects to these features that cannot be adequately addressed with the GIS analysis include: impacts to water quality and the loss of sediment input from the numerous channel diversions, culverts and road crossings, fragmentation of the habitat and the corresponding loss of habitat function and values.

Biological Resources Table 10 summarizes the direct loss of desert washes that would result from anticipated future projects within the Palo Verde watershed. These effects are also illustrated spatially in **Figure 18.** The contribution of the Project to cumulative effects from future projects is provided as the sum of all drainages within the Project boundaries.

Cumulative impacts to desert washes from all foreseeable future projects within the NECO planning area are significant (**Figure 17**). The Palo Verde watershed desert washes are particularly hard-hit by proposed future projects (18% of all stream reaches). Most of the impacts are attributable to the proposed solar projects to the north. The direct effects of all projects are compounded by the fact that they also cause impairment of hydrologic, geochemical, geomorphic, and habitat function and values of the remaining reaches downstream of the impact.

Staff has concluded that with implementation of mitigation measures the Project's contribution to cumulative impacts to waters of the state in the Palo Verde watershed is not cumulatively considerable. These measures are in staff's proposed Condition of Certification **BIO-22** (acquisition of desert washes within or adjacent to the Palo Verde watershed); **BIO-7** (monitoring and reporting requirements); and **BIO-8** (avoidance and minimization measures).

The acquisition and permanent protection of drainages within or immediately adjacent to the Palo Verde watershed (**BIO-22**) has particular importance considering the paucity of protection currently provided on public lands in the Blythe area and the development potential of private lands in the watershed area. Currently there are no Wildlife Habitat Management Areas (WHMAs) or Desert Wildlife Management Areas (DWMAs) in the watershed. Furthermore, many drainages on the valley floor were diverted historically for agriculture. Many of those that remain are expected to be affected by proposed solar development.

Biological Resources Table 10
Desert Washes in Palo Verde Watershed – Cumulative Effects

Total Desert Washes* in Palo Verde Watershed	**Impacts to Habitat from Existing Projects**** (Percent of total watershed)	**Impacts to Habitat from Foreseeable Future Projects***** (Percent of total watershed)	**Contribution of BSPP to future cumulative impacts** (Percent of total impacts from Future projects)
1,610 mi.	**2 mi.** **(0.1%)**	**292 mi.** **(18.1%)**	**7.9 mi.** **(2.7%)** **(based on USGS dataset)**

*Based on the USGS National Hydrographic Dataset (2010) and California Interagency Watershed Map of 1999 (Calwater 2.2.1)
** Includes only those existing projects between Desert Center and the Colorado River for which GIS-based spatial data was available at the time of the analysis; see **Biological Resources Table 9**
*** Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in **Biological Resources Table 9**

Biological Resources Table 11 and **Figure 17** illustrate the potential cumulative impacts to all desert washes within the entire NECO boundary, as depicted in the USGS National Hydrographic Dataset (2010).

Biological Resources Table 11
Cumulative Effects: Desert Washes in the NECO Planning Area

Total Desert Washes* in NECO	**Impacts to Habitat from Existing Projects**** (Percent of total washes in NECO)	**Impacts to Habitat from Foreseeable Future Projects***** (Percent of total washes in NECO)	**Contribution of BSPP to future cumulative impacts** (Percent of total impacts from Future projects)
18,596 mi.	**48 mi.** **(0.25%)**	**1,120 mi.** **(6.0%)**	**7.9 mi.** **(0.7%)** **(based on USGS dataset)**

*Based on the USGS National Hydrographic Dataset (2010)
** Includes only those existing projects between Desert Center and the Colorado River for which GIS-based spatial data was available at the time of the analysis; see **Biological Resources Table 9**
*** Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in **Biological Resources Table 9**

H.2 Special-Status Wildlife

H.2.1 Desert Tortoise

This analysis addresses cumulative impacts to desert tortoise as defined by the current USGS Desert Tortoise Habitat Model (Nussear et al. 2009). It is a predictive model for mapping the potential distribution of desert tortoise habitat and is a useful tool for evaluating different land-use issues that tortoises face at a landscape scale. **Figure 30** is a spatial representation of the predicted habitat potential index values for desert tortoise, based on the 2009 model. The model is not intended to be used, or viewed, as a substitute for ground-based and site-specific field surveys. Model scores reflect a hypothesized habitat potential given the range of environmental conditions where tortoise occurrence was documented. The report (Nussear et al. 2009) specifically states:

> *"As such, there are likely areas of potential habitat for which habitat potential was not predicted to be high, and likewise, areas of low potential for which the model predicted higher potential. Finally, the map of desert tortoise potential habitat that we*

> *present does not account either for anthropogenic effects, such as urban development, habitat destruction, or fragmentation, or for natural disturbances, such as fire, which might have rendered potential habitat into habitat with much lower potential in recent years*".

GIS-based files for the boundaries of the Eastern and Northern Colorado Recovery Units of the 1994 Desert Tortoise Recovery Plan were not available from the USFWS at the time of this analysis and the proposed new boundaries as depicted in the USFWS 2008 Draft Revised Recovery Plan had not been adopted as of the time of this analysis. Consequently, the NECO boundary was used for this analysis. The NECO boundary closely approximates the boundaries of the two USFWS recovery units; however, the USFWS boundaries extend slightly to the north and west of the NECO boundary.

The Project's unmitigated effects to desert tortoise habitat (based on the 2009 USGS habitat model) are quantified below in **Biological Resources Table 12** (and **Figure 30**). The Blythe Project contains some low-to-moderate quality desert tortoise habitat (according to the USGS model) and the cumulative effects before mitigation are potentially significant (in the low-to-moderate values). Staff believes that with the incorporation of mitigation measures, the Project's contribution to the cumulative impact to desert tortoise habitat loss is not cumulatively considerable. These measures are staff's proposed Condition of Certification **BIO-12** (acquisition of compensation lands), the acquisition and permanent protection of drainages and desert washes within or immediately adjacent to the Palo Verde watershed in **BIO-22**, Project monitoring responsibility and worker training in **BIO-1** through **BIO-6**, monitoring and reporting requirements in **BIO-7,** impact avoidance and minimization measures in **BIO-8,** desert tortoise specific measures regarding clearance surveys and relocation techniques in **BIO-9** through **BIO-12**, and a Raven Management Plan in **BIO-13**. Condition of Certification **BIO-12** specifies that compensation habitat acquisitions occur within the Colorado Desert Recovery Unit in areas that have potential to contribute to desert tortoise habitat connectivity and build linkages between desert tortoise designated critical habitat, known populations of desert tortoise, and/or other preserve land.

Of particular concern are the cumulative effects of proposed future projects on desert tortoise connectivity between the Chuckwalla and Chemehuevi DWMAs and critical habitat units. One of the objectives for desert tortoise recovery in the Northern and Eastern Colorado Desert Coordinated Management Plan (NECO) (BLM CDD 2002) is to "*mitigate effects on desert tortoise populations and habitat outside DWMAs to provide connectivity between DWMAs.*" Maintaining connectivity is particularly important given the threats posed by global climate change, according to the 2008 USFWS Draft Revised Recovery Plan.

Probable desert tortoise linkages between the Chuckwalla and Chemehuevi critical habitat units and DWMAs are shown in **Figure 31.** The map utilizes the USGS predictive model for mapping the potential distribution of desert tortoise habitat between these important management areas, and uses the BLM land ownership dataset to show the distribution of private lands between the management areas. The location of

Biological Resources Table 12
Cumulative Effects: Desert Tortoise Habitat*

Habitat Value*	**Total Desert Tortoise habitat* in NECO**	**Impacts to Habitat from Existing** Projects** (Percent of total in NECO)	**Impacts to Habitat from Foreseeable Future*** Projects** (Percent of total in NECO)	**Contribution of BSPP to future cumulative impacts** (Percent of total impacts from Future projects)
0	243,679 acres	1,751 acres 0.7%	21,774 acres 8.9%	0 acres
0.1	233,260 acres	1,074 acres 0.5%	25,634 acres 11.0%	691 acres 2.7%
0.2	373,170 acres	1,758 acres 0.5%	42,942 acres 11.5%	1,647 acres 3.8%
0.3	628,960 acres	3,820 acres 0.6%	38,125 acres 6.1%	2,344 acres 6.1%
0.4 – 0.5	787,882 acres	2,296 acres 0.3%	61,153 acres 7.8%	1,216 acres 2.0%
0.6 – 0.7	1,381,024 acres	3,928 acres 0.3%	94,839 acres 6.9%	54 acres 0.05%
0.8 – 0.9	1,868,475 acres	5,204 acres 0.3%	53,074 acres 2.8%	0 acres
1.0	30,883 acres	24.5 acres 0.08%	54.5 acres 0.2%	0 acres

*Based on the USGS Desert Tortoise Habitat Model (Nussear et al. 2009)

** Includes only those existing projects between Desert Center and the Colorado River for which GIS-based spatial data was available at the time of the analysis; see **Biological Resources Table 9**

*** Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in **Biological Resources Table 9**

available lands in "probable" linkages is a useful tool for identifying potential acquisition lands for desert tortoise mitigation, and for evaluating different land-use issues that tortoises face at a landscape scale. The map identifies "probable linkages" based on the areas of moderate and high quality habitat between management areas for a qualitative analysis of cumulative effects; however, the impacts are not quantified here as the linkages have not been formalized or created as shape layers suitable for GIS analysis.

The linkages depicted represent areas of the best habitat quality for tortoises between the DWMAs and critical habitat, and therefore represent the most probable linkages and most important areas to protect to maintain connectivity between the Chemehuevi and Chuckwalla DWMAs. The identified linkages are based on a review of information on existing vegetation and landform data (NECO datasets and Project-specific survey data), and depicted in the USGS habitat model. Tortoise densities are also highest in the areas depicted as having the highest habitat value based of USFWS line distance sampling, and other survey (Nussear et al. 2009). Along with the linkages depicted in **Figure 31**, additional linkages through areas currently considered lower quality habitat that could be restored may also be important for long-term connectivity between the Chemehuevi and Chuckwalla DWMAs.

Although the Project is not located near any DWMAs or critical habitat units it nevertheless contributes incrementally to overall impacts to desert tortoise habitat and connectivity along the mid-to-upper bajadas that flank the mountain ranges; these are the areas targeted for development by future solar energy projects proposed in the Project vicinity. These residual effects to desert tortoise include the effects of fragmentation, impaired connectivity, degradation of the function and values of remaining habitat from predators, invasive plants, fire, and disease. Such residual cumulative effects can only be addressed through a regional and coordinated effort aimed at preserving and enhancing large, intact expanses of wildlife habitat and linkages, including maintaining connections between wildlife management areas and other movement corridors. Ongoing collaborative efforts by federal and state agencies to develop a Desert Renewable Energy Conservation Plan and BLM's Solar Energy Development Programmatic EIS offer an appropriate forum for such planning.

H.2.2 Nelson's bighorn sheep

The distribution and extent of the NECO designated bighorn sheep WHMAs (occupied and unoccupied range) and connectivity corridors, overlaid with past and foreseeable future projects within the NECO planning area, are quantified in **Biological Resources Table 13** and illustrated in **Figure 40**. The NECO dataset and **Biological Resources Table 13** are based on the assumption that the Little Maria Mountains are "unoccupied range". As discussed earlier in subsection C.2.4.1, Little Maria Mountains may potentially be occupied by bighorn sheep. As depicted in **Figure 40,** the McCoy Mountains, just west of the Project, are still considered unoccupied (extirpated); however, this does not preclude occupancy, and if the linkage between the ranges is lost or disrupted by solar development north of the Project, it could preclude successful re-introduction into the McCoy Mountains.

Biological Resources Table 13
Cumulative Effects: Bighorn Sheep WHMAs and Connectivity Corridors

Bighorn sheep WHMAs & Connectivity Corridors*	**Total WHMA or Connectivity Corridor* in NECO**	**Impacts to WHMAs & Connectivity Corridors from Existing** Projects** (Percent of all WHMAs or Corridors in NECO)	**Impacts to WHMAs & Connectivity Corridors from Foreseeable Future*** Projects** (Percent of all WHMAs or Corridors in NECO)	**Contribution BSPP to future cumulative impacts** (Percent of total impacts from Future projects)
Total in NECO	2,552,074 acres	4,945 acres 0.2% of total NECO	93,295 acres 3.7% of total NECO	0 acres
Occupied Range	1,718,254 acres	4,312 acres 0.3% of total Occupied range	51,508 acres 2.3% of total Occupied range	0 acres
Unoccupied Range	232,506 acres	92 acres 0.04% of total Unoccupied range	8,134 acres 3.5% of total Unoccupied range	0 acres
Connectivity Corridors	601,313 acres	540 acres 0.9% of total Connectivity corridor	33,653 acres 5.6% of total Connectivity corridor	0 acres

*Based on the BLM NECO Bighorn Sheep WHMAs dataset (BLM CDD 2002)

** Includes only those existing projects between Desert Center and the Colorado River for which GIS-based spatial data was available at the time of the analysis; see **Biological Resources Table 9**

*** Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in **Biological Resources Table 9**

The GIS analysis of the NECO bighorn sheep WHMAs and connectivity corridors indicates that occupied and unoccupied ranges are relatively unaffected by past and future projects (from habitat conversion), due largely to their position in wilderness areas and at higher elevations. Cumulatively, large-scale renewable energy development could significantly impact gene flow between sheep populations, decreasing the viability of the metapopulation of bighorn sheep. The Blythe Project itself, however, has no direct contribution to the loss of habitat within the identified connectivity corridors or WHMAs.

One concern of this analysis is whether the Project, when combined with the effects of other existing and future projects, would preclude the potential re-introduction of bighorn sheep into the McCoy Mountains. The proposed Project is sited at the base of the McCoy Mountains; another large solar project is proposed at the base of the Little Maria Mountains north of the Project. If bighorn sheep were re-established here, the Blythe Project would occupy spring foraging habitat.

The Society for Conservation of Bighorn Sheep has recommended a one mile buffer from the upper edge of any solar development to the base of the mountains. Using the metric of a one-mile buffer from the base of occupied ranges (or potentially restored populations), the Project, when combined with other existing and future projects, would result in the loss of a substantial portion of spring foraging habitat on the upper bajadas of these two ranges. The bighorn sheep can survive without going down on the bajadas to forage in the spring, as they do now in the Santa Rosa Mountains, providing foraging habitat is opened up elsewhere.

The Project's contribution to the loss of foraging habitat and maintenance of an adequate buffer from disturbance and edge effects to a re-introduced herd would be significant, but could be minimized by the placement of water sources in strategic locations to open up the foraging habitat in that area. Staff's proposed Condition of Certification **BIO-21** specifies such mitigation to offset this potential impact to a level less than significant. Therefore, with implementation of staff's proposed Condition of Certification **BIO-21** the Project's contribution to the cumulative effect of bighorn sheep habitat loss is not cumulatively considerable. The cumulative effects of all other proposed future projects on bighorn sheep connectivity and spring foraging habitat can only be addressed through a regional and coordinated effort aimed at preserving and enhancing large, intact expanses of wildlife habitat and linkages, including maintaining connections between wildlife management areas and other movement corridors.

H.2.3 Mojave Fringe-toed Lizard

The geographic scope for the first of two cumulative effects analyses for Mojave fringe-toed lizard is the entire NECO planning area; the second analysis looked only at the habitat within the Chuckwalla Valley. The NECO habitat dataset for Mojave fringe-toed lizard, which included all but the highest portions of the mountain ranges, was further refined to reflect the species restriction to sandier substrates. Using the NECO landforms dataset, this analysis created a simple habitat model by selecting the following landforms: crescentic dunes; dry playas; longitudinal dunes; undifferentiated dunes; sandy dissected fans; and sandy plains. The selected landforms were overlaid with documented occurrences of Mojave fringe-toed lizard from CNDDB and the detailed field survey data from four renewable energy projects within the NECO boundary. The occurrence data was in considerable agreement with the selected landforms; no corrections were necessary and no attempt was made to rank habitat value. **Biological Resources Table 14** presents the results of the Mojave fringe-toed lizard habitat mapping overlaid with the existing and future projects within the NECO planning area to quantify the cumulative effects of all projects on habitat loss.

Biological Resources Table 14
Cumulative Effects: Special-status Species Habitat

Special-status Species Habitat	**Total habitat in NECO** (or other study area)	**Impacts to Habitat from Existing+ Projects** (percent of total habitat)	**Impacts to Habitat from Foreseeable Future++ Projects** (percent of total habitat)	**Contribution BSPP to future cumulative impacts** (percent of total future impacts)
Mojave fringe-toed lizard habitat*	630,121 acres	2,306 acres 0.4%	101,878 acres 16.2%	37 acres+++ 0.04%
Mojave fringe-toed lizard habitat* (Chuckwalla Population)	99,657 acres	1,704.6 acres 1.7%	11,119 acres 11.1%	0 acres
American badger and desert kit fox*	4,795,631 acres	18,660 acres 0.4%	318,563 acres 6.6%	5,952 acres 1.9%
Burrowing owl***	4,795,631 acres	18,660 acres 0.4%	318,563 acres 6.6%	5,952 acres 1.9%
LeConte's thrasher****	3,718,357 acres	14,880 acres 0.4%	299,030 acres 8.0%	5,952 acres 1.9%
Burro deer****	660,962 acres	4,629 acres 0.7%	50,207 acres 7.6%	101.5 acres 0.2%
Couch's spadefoot toad****	1,548,597 acres	7,151 acres 0.5%	113,224 acres 0.7%	5,952 acres 5.3%
Las Animas colubrina****	379,010 acres	3,626 acres 1.0%	5,588 acres 1.5%	0 acres
Harwood's milk-vetch*****	1,555,915 acres	5,884 acres 0.4%	168,637 acres 10.8%	1,944 acres 1.2%
Harwood's phlox	630,121 acres	2,306 acres 0.4%	101,878 acres 16.2%	4 acres+++ 0.04%

*Total habitat based on the BLM NECO Landforms dataset (BLM CDD 2002), selecting following values: undifferentiated dunes; crescentic dunes, longitudinal dunes; sandy plains; sandy dissected fans. Does not include impacts from the transmission line and substation sites.

**Total habitat based on the BLM NECO Landforms dataset (BLM CDD 2002), excluding mountains playas, badlands, and lava flows

***Total habitat based on the BLM NECO Landforms dataset (BLM CDD 2002), excluding dunes, playas, mountains, badlands, and lava flows

****Total habitat based on the BLM NECO habitat dataset specific to that species (BLM CDD 2002); Project affects 57 plants outside mapped habitat

*****Total habitat based on the BLM NECO Landforms dataset (BLM CDD 2002), selecting following values: undifferentiated dunes; sandy plains; sandy dissected fans; undifferentiated plains; dissected fans; sand-covered fans

+ Includes only those existing projects between Desert Center and the Colorado River for which GIS-based spatial data was available at the time of the analysis; see **Biological Resources Table 9**

++ Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in **Biological Resources Table 9**

+++ Permanent loss of 4 acres of occupied dune habitat would occur on the transmission line south of I-10

Anticipated cumulative effects to Mojave fringe-toed lizard that are not reflected in this quantitative analysis of habitat conversion include: impacts to sand transport systems and the maintenance of dunes from renewable energy projects (wind fencing and the obstruction of sand-carrying winds and water-deposited sands); premature stabilization of dunes by the spread of noxious weeds, which also fuel wildfires; the effects of past and future grazing and off-road vehicles; fragmentation of the remaining habitat and reduced gene flow; an increase in predation by ravens and other predators from an increase in perching structures; and an increase in the potential for fire from transmission lines and increased vehicle use. The cumulative effects of all proposed future projects are expected to be significant within the scope of the NECO planning area and even more dramatic within the context of the Chuckwalla Valley and its potentially distinct population of Mojave fringe-toed lizard.

Biological Resources Table 14 and **Figures 32** and **33** illustrate the significant cumulative effects of habitat loss from all existing and foreseeable future projects to Mojave fringe-toed lizards in the NECO planning area and in the Chuckwalla Valley. The two tables do not reflect the impacts to occupied dune habitat for Mojave fringe-toed lizard habitat along the transmission line corridor south of I-10 as the GIS-based shape files were not available at the time of this analysis. This impact totaled 37 acres, with 4 acres attributable to transmission line construction, and 33 acres to Southern California Edison's construction of the Colorado River Substation. Staff's proposed Condition of Certification **BIO-20** requires implementation of impact avoidance and minimization measures and acquisition of habitat at a 3:1 ratio for the 4 acres of sand dune habitat loss attributable to the Blythe Project interconnecting transmission line south of I-10. Therefore, with implementation of **BIO-20**, Project monitoring and worker training in **BIO-1** through **BIO-6**, Project monitoring in **BIO-7**, and the impact avoidance and minimization measures in **BIO-8** , the Project's contribution to the cumulative effect of Mojave fringe-toed lizard habitat is not cumulatively considerable.

H.2.4 Golden Eagle

Two analyses of different geographic scope were conducted for this analyses of impacts to foraging habitat: **Figure 36** calculates the direct loss of habitat within the NECO planning area, and **Figure 37** depicts a 140-mile radius area centered on the Project. The NECO plant communities dataset was used for the NECO-range analysis; it is based on the 1996 California Gap Analysis Project conducted by the Biogeography Lab at the University of California, Santa Barbara, coordinated through the USGS Biological Resources Division (Davis et al. 1998), but was refined during the NECO plan development to provide a more accurate depiction of desert dry wash woodland. The vegetation mapping depicted in **Figure 37** is GAP analysis mapping obtained from the National GAP Analysis Land Cover Project. Future renewable project data was obtained from BLM Arizona and BLM California; the NEVADA project data was not yet available in a digital format and is not included in this analysis.

Figure 36 also depicts the locations of known and documented golden eagle nest locations. The source of this information include the "nest card" database--helicopter surveys conducted in 1978 and 1979 desert-wide—and on locations depicted in a 1984 BLM California Desert Conservation Area (CDCA) map of “Sensitive, Rare, Threatened and Endangered Fish and Wildlife”. An Environmental Assessment and Implementation Guidance for take permits was issued under the Bald Eagle and Golden Eagle Protection Act (USFWS 2010). The EA specifies that in implementing the resource recovery permit for take of inactive golden eagle nests (50 CFR 22.25), data within a 10-mile radius of the nest provides adequate information to evaluate potential effects.

Figure 37, an analysis of impacts to foraging habitat within 140 miles of the Project, was conducted based on guidance from USFWS (Pagel pers. comm.). Within the NECO planning area project c impacts to Sonoran creosote bush scrub, and the indirect effects of the proposed Southern California Edison Colorado River Substation to dune habitats, are cumulatively considerable, particularly when combined with the indirect effects habitat fragmentation associated with future projects. Proposed transmission lines, with associated collisions and raptor electrocutions also contributes to the cumulative impacts to golden eagle populations. The USFWS (2010) estimates approximately 30,000 golden eagles in the western U.S., down from an estimated 100,000 in the late 1970s. Survey data from 2003, 2006-2008 indicate a decline of 26% since 2003. Climate change is expected to impact golden eagle by increasing drought severity; CO_2 concentrations are expected to exacerbate the spread invasive weeds, which displace native species and habitats, fuel wild fires and alter fire regimes. With implementation of mitigation measures, the Project’s contribution to the cumulative effect of golden eagle foraging habitat loss is not cumulatively considerable. These measures are staff’s proposed Condition of Certification **BIO-12** which requires the acquisition of 7,044 acres of desert tortoise habitat that can also be utilized as foraging habitat for golden eagle, Project monitoring responsibility and worker training in **BIO-1** through **BIO-6**, Project monitoring in **BIO-7**, the impact avoidance and minimization measures in **BIO-8**, and golden eagle nest monitoring in **BIO-24**. While acquisition does not address the net loss of foraging habitat in the immediate future, it is expected to prevent future losses of habitat by placing a permanent conservation easement and deed restrictions on private lands that could otherwise be converted for urban or agricultural uses or energy development.

Although the Project’s contribution to cumulative effects would be reduced to a level of less than significant, it is possible that the residual indirect effects of all proposed future projects--after mitigation to less than significant level --could combine to cause a cumulative effect. Such residual cumulative effects can only be addressed through a regional and coordinated, multi-agency efforts aimed at preserving and enhancing large, intact expanses of foraging habitat and minimizing the indirect effects of fragmentation, bird collisions, weed invasions, and other landscape-scale indirect effects.

Biological Resources Table 15
Cumulative Effects: Golden Eagle Foraging Habitat

Cumulative Effects: Golden Eagle Foraging Habitat in NECO Planning Area

Foraging Habitat* (by plant community)	**Total Plant Communities* in NECO**	**Impacts to Foraging Habitat from Existing** Projects** (Percent of all Community type in NECO)	**Impacts to Foraging Habitat from Foreseeable Future*** Projects** (Percent of all Community type in NECO)	**Contribution of BSPP to future cumulative impacts** (Percent of total impacts from Future projects)
Mojave Creosote Scrub	805,832 acres	157 acres 0.02%	43,320 acres 5.4%	0 acres
Sonoran Creosote Scrub	3,829,999acres	11,871 acres 0.3%	226,954 acres 5.9%	5,850 acres 2.6%
Desert Dry Wash Woodland	682,027	2,971 acres 0.4%	47,585 acres 7.0%	101 acres 0.2%
Playa/Dry Lake	88,110 acres	11 acres 0.01%	18,634 acres 21.1%	0 acres
Sand Dunes****	62,140 acres	14 acres 0.02%	56 acres 0.09%	37 acres**** 66.1%
Chenopod Scrub	2,113 acres	10 acres 0.1%	0 acres	0 acres
Agriculture, Developed	94,187 acres	4,856 acres 5.2%	1,017 acres 1.1%	0 acres
Pinyon-Juniper Woodland	1,928 acres	0 acres	0 acres	0 acres

Cumulative Effects: Golden Eagle Foraging Habitat+ – 140-mile Radius Area

+ Different vegetation mapping dataset than NECO area analyses; used California GAP Analysis dataset and National GAP program data for Arizona

Foraging Habitat+ (by plant community)	**Total Plant Communities+ in 140-mile Radius of Project**	**Impacts to Foraging Habitat from Existing ++Projects** (Percent of all community type in 140-mile radius)	**Impacts to Foraging Habitat from Foreseeable Future+++ Projects** (Percent of all community type in 140-mile radius)	**Contribution of BSPP to future cumulative impacts** (Percent of total impacts from future projects)
Mojavean & Sonoran Desert Scrubs	19,758,6683 acres	n/a	1,032,460 acres 5.2%	5,947 acres 0.6%
Great Basin Desert Scrubs	293,771acres	n/a	7,314 acres 2.5%	0 acres
Alkali Desert Sink Scrub	343,693 acres	n/a	31,413 acres 9.1%	0 acres
Desert Succulent Scrubs++++ (desert scrubs with cacti/succulents)	3,851,502 acres	n/a	68,780 acres 1.8%	0 acres
Chaparral	2,504,156 acres	n/a	18,637 acres 0.7%	0 acres
Riversidean Sage Scrub	225,794 acres	n/a	0 acres	0 acres

Desert Wash Woodland/Desert Riparian	247,040 acres	n/a	0 acres	0 acres
Desert Wash (wash scrubs and unvegetated)	858,147 acres	n/a	59,606 acres 6.9%	4.8 acres 0.008%
Playa/Dry Lake	277,144 acres	n/a	0 acres	0 acres
Agriculture	1,545,996 acres	n/a	878 acres 0.06%	0 acres
Pinyon-Juniper Woodland	1,357,809acres	n/a	163 acres 0.01%	0 acres
Montane Conifer	730,981 acres	n/a	7,938 acres 1.1%	0 acres
Montane Riparian Woodland	6,014 acres	n/a	0 acres	0 acres
Oak Woodland	115,005 acres	n/a	148 acres 0.1%	0 acres
Urban	922,928 acres	n/a	44 acres 0.01%	0 acres
Riverine and Lacustrine (open water)	6,877 acres	n/a	561 acres 8.2%	0 acres
Annual/Perennial Grassland (and mixed gass/scrub)	600,648 acres	n/a	16 acres 0.003%	0 acres
Wet Meadow	26,568 acres	n/a	0 acres	0 acres
Freshwater Emergent Marsh	14,516 acres	n/a	10 acres 0.07%	0 acres
Palm Oasis	3029 acres	n/a	0 acres	0 acres
Barren (Rock outcrop)	161,355 acres	n/a	330 acres 0.2%	0 acres

*Based on the BLM NECO Plant Communities dataset (BLM CDD 2002) conducted by the Biogeography Lab at the University of California, Santa Barbara and coordinated through the USGS Biological Resources Division UC Santa Barbara GAP Analysis (1996), updated during the NECO planning effort (see Appendix H of the NECO Management Plan (BLM CDD 2002)

** Includes only those existing projects between Desert Center and the Colorado River for which GIS-based spatial data was available at the time of the analysis; see **Biological Resources Table 9**

*** Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in **Biological Resources Table 9** (February 2010)

**** Includes the indirect effects to dune habitat (33 ac.) from the proposed SCE Colorado Substation, and 4 acres direct impacts from the linear facilities of the Project. Substation impacts will be mitigated under the authority of the CPUC.

+Based on the California GAP Analysis conducted by the Biogeography Lab at the University of California, Santa Barbara and coordinated through the USGS Biological Resources Division UC Santa Barbara GAP Analysis (1996). Arizona vegetation data based on National GAP Program data. Nevada GAP data not included in Table 15

++Existing impacts dataset not compiled for this analysis

+++Based only on future (proposed) renewable energy projects in California and Arizona; ROW obtained from BLM California and BLM Arizona; includes only projects with a Plan of Development (POD) at the time of the analysis (May 2010). BLM Nevada GIS-based data not available at time of analysis (May 2010)

++++Includes Joshua Tree Woodland, Mojave Yucca Woodland, and various mixed shrub and cacti communities

H.2.5 American Badger and Desert Kit Fox

The geographic scope for the cumulative analysis for these two species encompasses the entire NECO planning area. Using the NECO landforms dataset, the extent of suitable habitat was refined somewhat by excluding the following landforms: playas, badlands (steep erosional features), mountains, and lava flows, and then overlaid by existing and foreseeable future projects to quantify cumulative impacts to badger and kit fox habitat (**Biological Resources Table 14** and **Figure 39**).

This quantitative analysis of habitat loss **(Biological Resources Table 14** and **Figure 39)** does not address use of the Project site and adjacent habitat for both foraging and movement pathways. Other reasonably anticipated cumulative effects not quantified here include habitat fragmentation and the diminished habitat values of remaining habitat from increased noise, lighting, exotic plant and wildlife invasion and their ability to fuel wildfires and alter fire regimes, dust and air pollution, an increase in predators, agriculture and urban development (which has eliminated much habitat in the immediate Project vicinity), and the consequences of human intrusion into previously undisturbed habitats: hunting, use of rodenticides and other poisons, road kills, trapping, and human disturbance.

An estimated 318,563 acres of American badger and desert kit fox habitat would be displaced by the proposed future projects within the NECO planning area, representing approximately 6.6% of the total habitat mapped in NECO (based on the simple habitat model described above). Staff considers this effect, combined with the anticipated indirect effects to remaining habitat and populations from all future projects, potentially significant. The Project's contributes at least incrementally to this potentially significant effect, however, with the incorporation of mitigation measures, the Project's contribution to the cumulative effect of American badger and desert kit fox habitat loss is not cumulatively considerable. These measures are staff's proposed Condition of Certification **BIO-12** for acquisition of 7,044 acres of desert tortoise habitat, **BIO-22** for the acquisition and enhancement of 1,320 acres of desert washes within or immediately adjacent to the Palo Verde watershed, the avoidance and minimization measures for American badger and desert kit fox contained in **BIO-17,** Project monitoring responsibility and worker training in **BIO-1** through **BIO-6**, and Project monitoring in **BIO-7.**

H.2.6 Western Burrowing Owl

Using the NECO landforms dataset, the extent of suitable habitat for burrowing owl was refined somewhat by excluding the following landforms: dunes, mountains, playas, badlands (steep erosional features) and lava flows, and then overlaid by existing and foreseeable future projects to quantify cumulative impacts to burrowing owl habitat **(Biological Resources Table 14** and **Figure 35)**.

The Project's contribution to the cumulative loss of habitat is comparable to the cumulative loss of badger and kit fox habitat, described above. However, the analysis does not quantify expected indirect cumulative effects such as habitat fragmentation, increased road kills, increased risk of fire from weed invasion and ignition sources, and the degradation of remaining habitat function and values. Staff considers these effects potentially significant. The Project's contribution to indirect effects and loss of burrowing owl habitat is not cumulatively considerable with the incorporation of mitigation measures. These measures are: staff's proposed Condition of Certification **BIO-12** for acquisition of 7,044 acres of desert tortoise habitat; **BIO-22** for the acquisition and enhancement of 1,320 acres of desert washes within or immediately adjacent to the Palo Verde watershed; the avoidance and minimization measures for burrowing owl contained in **BIO-18**; Project monitoring responsibility and worker training in **BIO-1** through **BIO-6**; Project monitoring in **BIO-7**; and general impact avoidance and minimization measures in **BIO-8**.

H.2.7 Le Conte's Thrasher

The scope of this analysis includes the entire NECO planning area and utilized the NECO Le Conte's thrasher habitat dataset to quantify cumulative effects of habitat loss from existing and foreseeable future projects. The NECO habitat model for this species is applicable to several other special-status bird species that inhabit desert dry wash woodland, including black-throated sparrow, Costa's hummingbird, and black-tailed gnatcatcher (**Biological Resources Table 14** and **Figure 38**). The cumulative impacts to migratory birds not addressed in the quantitative analysis of habitat loss include: habitat fragmentation, and degradation, impacts to groundwater-dependent vegetation and riparian vegetation from water overdrafts and diversions.

The Le Conte's thrasher is showing steep population declines due to loss of habitat resulting from urbanization and water use combined with prolonged drought. Further loss, fragmentation, and degradation of habitat could cause local extirpations and imperil Le Conte's thrashers in the Mojave and Sonoran deserts (California Partners in Flight 2006). The planned renewable energy projects show landscape scale loss and fragmentation of habitat. Other species that appear vulnerable to these impacts are black-throated sparrow, Costa's hummingbird, and black-tailed gnatcatcher.

Cumulative effects from all proposed foreseeable future projects on habitat loss are substantial. However, the Project's contribution to the cumulative effect of habitat loss for LeConte's thrasher is not cumulatively considerable with the incorporation of mitigation measures. These measures are staff's proposed Condition of Certification **BIO-22** which requires acquisition of 1,320 acres of ephemeral washes within or immediately adjacent to the same watershed as the Blythe Project, compensatory habitat acquisition for Sonoran creosote bush scrub in the Project area in **BIO-12**, pre-construction nesting bird surveys in **BIO-16,** Project monitoring responsibility and worker training in **BIO-1** through **BIO-6**, Project monitoring in **BIO-7**, and general impact avoidance and minimization measures in **BIO-8**.

The combined effects of the many renewable energy and other foreseeable future projects on habitat loss (8.4%), would have a considerable cumulative effect on Le Conte's thrasher and other desert birds, particularly when combined with the indirect effects of channel diversions and groundwater-pumping on riparian habitat and fragmentation. Current research indicates that most desert birds, including Le Conte's thrasher, are highly susceptible to habitat fragmentation and disturbance (Kershner, USFWS, pers comm.). The Le Conte's thrasher is typically found in very low densities and has large territories. Thus, if habitat loss, fragmentation and degradation occur, Le Conte's thrashers have been shown to become extirpated from areas rapidly. Habitat loss and degradation also lead to barriers to movements. Although the Project's contribution to cumulative effects is not cumulatively considerable with the incorporation of staff's proposed conditions of certification, it is possible that the residual effects of all proposed future projects--after mitigation to less than significant level --could combine to cause a cumulative effect. Such residual cumulative effects can only be addressed through a regional and coordinated, multi-agency efforts aimed at preserving and enhancing large, intact expanses of wildlife habitat and minimizing the effects of fragmentation and other landscape-scale indirect effects.

H.2.8 Burro Deer

Burro deer is a subspecies of mule deer found in the Colorado Desert of Southern California, primarily along the Colorado River and in Desert Wash Woodland communities away from the River. During the hot summers, water is critical, and deer concentrate along the Colorado River where water developments have been installed and where the microphyll woodland is dense and provides good forage and cover. Impacts are most important within 1/4 mile of natural or artificial watering sites; these sites are depicted in the bighorn sheep WHMA map, **Figure 40**.

Biological Resources Table 14 summarizes the anticipated cumulative effects to burro deer range (based on the NECO dataset for burro deer range); these effects are also illustrated in **Figure 41.** Less than 102 acres of suitable range would be displaced by the Project; nevertheless, the Project contributes at least incrementally to a significant cumulative effect. However, the Project's contribution to the loss of suitable habitat for burro deer is not cumulatively considerable with the incorporation of mitigation measures. These measures are staff's proposed Condition of Certification **BIO-22** for acquisition of 1,320 acres of ephemeral washes within or immediately adjacent to the Palo Verde watershed, and Condition of Certification **BIO-12** for compensatory habitat acquisition for Sonoran creosote bush scrub in the Project area, Project monitoring responsibility and worker training in **BIO-1** through **BIO-6**, Project monitoring in **BIO-7**, and general impact avoidance and minimization measures in **BIO-8**.

H.2.9 Couch's Spadefoot Toad

The Project site falls within the range for Couch's spadefoot toad species as the range is described in the Northern & Eastern Colorado Desert Coordinated Management Plan (BLM CDD 2002) and Amphibian and Reptile Species of Special Concern in California (Jennings and Hayes 1994). The NECO Couch's spadefoot toad range dataset was used in this analysis to quantify cumulative impacts to potential habitat (**Biological Resources Table 14** and **Figure 34**).

Urbanization and agriculture have eliminated historical Couch's spadefoot toad habitat (Morey 2005). Additional threats to Couch's spadefoot include impacts from off-highway vehicles, which can destroy potential pool habitat. Although the cumulative impacts to

Couch's spadefoot toad habitat loss from existing and foreseeable future projects is relatively minor. Because of this species' limited range in California, the Blythe Project appears to contribute substantially to habitat loss as depicted in the NECO range map, and potential breeding habitat was found within the Project Disturbance Area (AECOM 2010u). With the incorporation of mitigation measures, the Blythe Project's contribution to the cumulative effect of habitat loss for Couch's spadefoot toad is not cumulatively considerable (AECOM 2010t). These measures are Project monitoring responsibility and worker training in **BIO-1** through **BIO-6**, Project monitoring in **BIO-7**, and general impact avoidance and minimization measures in **BIO-8**, and breeding pond avoidance and mitigation measures in **BIO-26**.

H.2.10 Wildlife Movement and Connectivity

Connectivity refers to the degree to which organisms can move among habitat patches and populations. Individuals must be able to move between patches to meet their resource needs, while populations must be connected to allow for dispersion, gene flow, and re-colonization. This discussion includes a qualitative assessment of connectivity and is depicted spatially in **Figure 31** "Desert Tortoise DWMAs & Connectivity Corridors", displayed on a base map of USGS desert tortoise habitat modeling (Nussear et al. 2009). **Biological Resources Table 13** and **Figures 16** and **17,** "Bighorn Sheep WHMAs & Connectivity Corridors" provide a summary of cumulative effects to desert tortoise and bighorn sheep movement corridors as defined in the NECO Plan (BLM 2002).

The site does not overlap with designated Areas of Critical Environmental Concern (ACECs), WHMAs, or DWMAs, nor has it been proposed by the public for designation as wilderness. In addition, the eastern portion of the Project site was included in the Solar Programmatic EIS recommendations for the Riverside East Solar Energy Study Areas (SESA) by the Wilderness Society and Natural Resources Defense Council because of its low potential for significant resource conflicts, relative to other project sitings.

The cumulative effects of all proposed future projects are likely to remain significant after mitigation, even after project-specific mitigation to less than significant levels is considered. The significant cumulative impact is due to the residual effects of fragmentation, impaired connectivity, degradation of the function and values of remaining habitat from predators, invasive plants, fire, and disease. Ongoing collaborative efforts by federal and state agencies to develop a Desert Renewable Energy Conservation Plan and BLM's Solar Energy Development Programmatic EIS provide an appropriate vehicle for mitigation for the significant cumulative effects of all proposed future projects on general wildlife movement and connectivity between WHMAs and DWMAs.

Biological Resources Table 16 and **Figures** and **57 and 58** look at the cumulative effects to plant communities and landforms within three Multi-Species WHMAs in the Project vicinity: Big Maria Mountains WHMA, Palen-Ford WHMA, and the Continuity DWMA, which provides connectivity between the Chuckwalla DWMA/ACEC south of I-10 and the Palen-Ford WHMA north of I-10. This analysis utilized the NECO Plant

Biological Resources Table 16
Cumulative Effects: WHMAs and Plant Communities

Palen-Ford WHMA				
Plant Community* within WHMA	**Total Plant Communities* in NECO**	**Impacts to Habitat from Existing** Projects** (Percent of all Community type in WHMA)	**Impacts to Habitat from Foreseeable Future*** Projects** (Percent of all Community type in WHMA)	**Contribution of BSPP to future cumulative impacts** (Percent of total impacts to WHMA from Future projects)
Sonoran Creosote Scrub	39,3668 acres	56 acres 0.1%	5,488 acres 14%	0 acres
Desert Dry Wash Woodland****	13,104 acres	12.5 acres 0.1%	202 acres 1.5%	0 acres
Sand Dunes+	17,690 acres	0 acres	44 acres 0.25%	0 acres
Chenopod Scrub	381 acres	0 acres	0 acres	0 acres
Big Maria Mountains WHMA				
Plant Community* within WHMA	**Total Plant Communities* in NECO**	**Impacts to Habitat from Existing** Projects** (Percent of all Community type in WHMA)	**Impacts to Habitat from Foreseeable Future*** Projects** (Percent of all Community type in WHMA)	**Contribution of BSPP to future cumulative impacts** (Percent of total impacts to WHMA from Future projects)
Sonoran Creosote Scrub	24,436 acres	31 acres 01%	3,105 acres 12.7%	0 acres
Desert Dry Wash Woodland****	9.308 acres	35 acres 0.4%	1,008 acres 10.8%	0 acres
Agriculture, Urban	50 acres	0.06 acres.1%	0 acres	0 acres
DWMA Continuity WHMA				
Plant Community* within WHMA	**Total Plant Communities* in NECO**	**Impacts to Habitat from Existing** Projects** (Percent of all Community type in WHMA)	**Impacts to Habitat from Foreseeable Future*** Projects** (Percent of all Community type in WHMA)	**Contribution of BSPP to future cumulative impacts** (Percent of total impacts to WHMA from Future projects)
Sonoran Creosote Scrub	12,804 acres	719 acres 1.4%	962 acres 7.5%	0 acres
Desert Dry Wash Woodland	275 acres	2.9 acres 1.1%	1.4 acres 0.5%	0 acres

*Based on the BLM NECO Plant Communities dataset (BLM CDD 2002), updated from the California Gap Analysis Project, conducted by the Biogeography Lab at the University of California, Santa Barbara and coordinated through the USGS Biological Resources Division UC Santa Barbara GAP Analysis (1996).

** Includes only those existing projects between Desert Center and the Colorado River for which GIS-based spatial data was available at the time of the analysis; see **Biological Resources Table 9**

*** Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in **Biological Resources Table 9**

+ Does not include impacts from the transmission line and substation sites, which includes sand dune habitat.

Communities and Landforms datasets to describe the type of habitat affected within each separate WHMA. In all three WHMAs, the Project does not contribute to the cumulative effects of existing and future projects on habitat loss within the WHMAs, and is located well outside the WHMA boundaries. It is located approximately one to two miles southwest of the nearest WHMA—the Big Maria Mountains WHMA—between the WHMA and the Palen-McCoy Wilderness to the west. The Project, when combined with other proposed solar projects in the McCoy Wash valley, could obstruct movement for any wildlife movement across the valley floor. Movement along the mountain slopes between the two site would remain unimpeded; however, movement along the toe slopes of the McCoy Mountains could be disrupted by the effects of operation (noise, lighting, human disturbance, and an increase in avian predators from new structural perching sites). Staff considers this potentially a significant effect, given the potential for natural (or artificial) re-introduction of bighorn sheep into the McCoy Mountains from adjacent occupied ranges. However, with the incorporation of mitigation measures, the Project's contribution to the cumulative effect to wildlife movement and connectivity is not cumulatively considerable. These measures are proposed Condition of Certification **BIO-12** which requires the acquisition of 7,044 acres of desert tortoise habitat that can also be utilized as foraging habitat for wildlife, acquisition of drainages and desert washes in or immediately adjacent to the Palo Verde watershed in **BIO-22**, Project monitoring responsibility and worker training in **BIO-1** through **BIO-6**, Project monitoring in **BIO-7**, the impact avoidance and minimization measures in **BIO-8**, and golden eagle nest monitoring in **BIO-24**.

H.2.11 Natural Communities

The geographic scope of the analysis of cumulative effects on plant communities and general wildlife habitat encompasses the NECO planning area and uses the NECO plant communities dataset to map and quantify cumulative effects on foraging habitat (**Biological Resources Table 17** and **Figure 14**). The NECO plant communities dataset is based on the 1996 California Gap Analysis Project conducted by the Biogeography Lab at the University of California, Santa Barbara and coordinated through the USGS Biological Resources Division. A new vegetation mapping dataset recently became available for the Mojave Desert Region (Thomas 2002); however, the Blythe Project occurs just outside the boundaries of this new dataset.

Biological Resources Table 17 quantifies the cumulative effects to plant communities, stratified by community type. Mojave creosote scrub refers to the creosote bush-dominant desert scrubs that occur within the Mojave Desert region of the California Desert geographic subdivision (Hickman 1993). The transition to Sonoran Desert is mapped at the Bristol Mountains near the Twenty-Nine Palms Marine Corps Base and extends east and south through the NECO planning area.

Significant cumulative effects to plant communities are seen in many community types, particularly Sonoran creosote bush scrub, dry playa, and chenopod scrub. The Project contributes at least incrementally to the cumulative impacts of existing and future projects to Sonoran creosote bush scrub. Sonoran creosote bush scrub is a common and widespread community in the southeastern deserts of California; however, this does not reflect the importance of large, intact blocks of habitat to wildlife movement, or to foraging and breeding habitat for wildlife, including state and federal listed species.

The NECO mapping of plant communities also does not reflect the many uncommon and even rare plant assemblages within creosote scrub that have been documented and are monitored by the CNDDB. These are communities ranked as state rare (S3 or below) because the associations are rare due to a restricted range, relatively few occurrences, recent and widespread declines, or other factors. Examples include associations of creosote scrub and galleta grass, which occur along the vegetated

Biological Resources Table 17
Cumulative Effects: Natural Communities

Plant Community*	**Total Plant Communities* in NECO**	**Impacts to Habitat from Existing** Projects** (Percent of all Community type in NECO)	**Impacts to Habitat from Foreseeable Future*** Projects** (Percent of all Community type in NECO)	**Contribution of BSPP to future cumulative impacts** (Percent of total impacts from Future projects)
Mojave Creosote Scrub	805,832 acres	157 acres 0.02%	43,320 acres 5.4%	0 acres
Sonoran Creosote Scrub	3,829,999acres	11,871 acres 0.3%	226,954 acres 5.9%	5,850 acres 2.6%
Desert Dry Wash Woodland	682,027	2,971 acres 0.4%	47,585 acres 7.0%	101 acres 0.2%
Playa/Dry Lake	88,110 acres	11 acres 0.01%	18,634 acres 21.1%	0 acres
Sand Dunes+	62,140 acres	14 acres 0.02%	56 acres 0.09%	0 acres
Chenopod Scrub	2,113 acres	10 acres 0.1%	0 acres	0 acres
Agriculture, Developed	94,187 acres	4,856 acres 5.2%	1,017 acres 1.1%l	0 acres
Pinyon-Juniper Woodland	1,928 acres	0 acres	0 acres	0 acres

*Based on the BLM NECO Plant Communities dataset (BLM CDD 2002) conducted by the Biogeography Lab at the University of California, Santa Barbara and coordinated through the USGS Biological Resources Division UC Santa Barbara GAP Analysis (1996), updated during the NECO planning effort (see Appendix H of the NECO (BLM and CDD 2002)

** Includes only those existing projects between Desert Center and the Colorado River for which GIS-based spatial data was available at the time of the analysis; see **Biological Resources Table 9**

*** Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in **Biological Resources Table 9**

+ Does not include impacts from the transmission line and substation site.

ephemeral drainages in the Project area. A total of 367.4 acres of this community type were mapped within the Project and would be directly affected. Regardless of whether they're desert wash communities, the rarity is because they occur in areas of less than 10,000 or 50,000 acres, or fewer than 21 or 100 occurrences.

The Project's contribution to the cumulative loss of Sonoran creosote scrub, desert washes, and other natural communities is not cumulatively considerable with the incorporation of mitigation measures. These measures are staff's proposed conditions of certification acquisition of 7,044 acres of desert tortoise habitat in **BIO-12**, acquisition of desert washes in **BIO-22**, best management practices and impact avoidance measures in **BIO-7**; weed management plan in **BIO-14**; and mitigation monitoring and reporting in **BIO-7**. While acquisition does not address the net loss of habitat in the immediate future (a temporal net loss of habitat), it is expected to prevent future losses of habitat by placing a permanent conservation easement and deed restrictions on private lands that could otherwise be converted for urban, agricultural or energy development.

The analysis of impacts to foraging habitat based on the NECO plant communities dataset concludes that the Project would impact 101 acres of desert dry wash woodland (**Figure 15**). This analysis reflects the high accuracy of this field verified dataset (Appendix H of the NECO); a difference of only 7 acres from the field verified delineation conducted by the Applicant's consultant. Although this represents only a 0.2%

contribution to cumulative effects, “seemingly minor impacts can be significant if they affect an extremely rare or limited resource, and the cumulative impact may be substantial”, according to CEQ guidance in the preparation of joint CEQA-NEPA cumulative effects analyses. Desert dry wash woodland is a sensitive natural community recognized under many LORS and area plans. Because it has a limited distribution and carries an ecological importance that is disproportionate to its limited extent; staff considers this a significant cumulative effect particularly in light of the Project’s contribution to cumulative effects to desert washes in the Palo Verde watershed. The Project’s contribution to the cumulative effect on desert dry wash woodland habitat loss is not cumulatively considerable through the implementation of Condition of Certification **BIO-22**, which specifies acquisition and enhancement of desert wash woodland within or immediately adjacent to the Palo Verde watershed a 3:1 mitigation ratio.

Biological Resources Table 18 and **Figure 19** reflect the cumulative impacts to uncommon and widespread landforms and habitat types within the NECO Planning Area, stratified by landform. There is some overlap with the GAP Analysis/NECO Plant Communities dataset (dunes and playa); differences in extent reflect the different data sources and mapping methodology.

Biological Resources Table 18
Cumulative Effects: Landforms/Wildlife Habitat

NECO Landform*	**Total Landform* in NECO**	**Impacts to Habitat from Existing** Projects** (Percent of all landform type in NECO)	**Impacts to Habitat from Foreseeable Future*** Projects** (Percent of all landform type in NECO)	**Contribution of BSPP to future cumulative impacts** (Percent of total impacts from Future projects)
Alluvial Fans/Bajadas	2,997,468 acres	12,581 acres 0.5%	216,109 acres 7.2%	5,952 acres 2.8% of future total
Sand Dunes +	150,136 acres	274 acres 0.2% of total	16,921 acres 11.3% of total	0 acres
Pediments	139,282 acres	131 acres 0.1% of total	1,263 acres 0.9% of total	0 acres
Plains	408,453 acres	2,657 acres 0.7% of total	48,117 acres 11.8% of total	0 acres
Badlands	79,141 acres	40 acres 0.05% of total	1,203 acres 1.5% of total	0 acres
Lava Flows	180 acres	0 acres	0 acres	0 acres
Riverwashes	137,265 acres	280 acres 0.2% of total	6,896 acres 5.0% of total	0 acres
Dry Playas	62,106 acres	163 acres 0.3% of total	9,072 acres 14.6% of total	0 acres
Mesas	6,843 acres	0 acres	0 acres	0 acres
Tilted Plateaus	8,979 acres	0 acres	3,761 acres 42.0% of total	0 acres
Mountains	609,023 acres	995 acres 0.2% of total	8682 acres 1.4% of total	0 acres
Hills	947,205 acres	2,764 acres 0.3% of total	25,495 acres 2.7% of total	0 acres

*Based on the NECO Landforms dataset (BLM CDD 2002)

** Includes only those existing projects between Desert Center and the Colorado River for which GIS-based spatial data was available at the time of the analysis; see T **Biological Resources Table 9**

*** Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in T **Biological Resources Table 9**

+ Does not include impacts from the transmission line and substation sites, which includes sand dune habitat.

Playas and dry lakebeds appear to be disproportionately affected by the cumulative effects of potential future projects: 21.1% of this community type would be directly affected. Due to their limited extent and potential status as jurisdictional state waters, and their hydrologic importance and seasonal value to wildlife, staff considers this a significant cumulative effect. However, the Blythe Project does not contribute, even incrementally, to this effect. Consequently, mitigation or other actions to offset or minimize this effect would have to be enforced outside of the Project permitting process through a programmatic EIS or other coordinated or regional effort.

H.2.12 Active Dune Habitat in Chuckwalla Valley

This analysis highlights the cumulative effects of the many BLM renewable energy projects on this important habitat. Dunes provide habitat for a variety of special-status plants and animals; locally these include Mojave fringe-toed lizard, and Harwood's milk-vetch. The same NECO Landforms dataset was used for the analysis but only the following values selected: crescentic dunes, longitudinal dunes, and undifferentiated dunes. **Biological Resources Table 19** and **Figure 16** quantifies the cumulative effects of the BLM renewable energy projects and other existing and future projects on "active" dune formations in the NECO planning area; the extent of other less active aeolian-deposited and stream-deposited sands are better reflected in the habitat model for Mojave fringe-toed lizard (**Figure 32** and **33**, and **Biological Resources Table 14**). The mapping and model for Mojave fringe-toed lizard includes sandy plains and sand-covered alluvial fans; portions of these landforms may be located within the wind-sand transport corridor but occur in the less active outer portions beyond the "active dunes".

Biological Resources Table 19
Cumulative Effects: Active Dune Habitat

Total Dune habitat* in Chuckwalla Valley	**Impacts to Dune Habitat from Existing** Projects** (Percent of all dune habitat in Chuckwalla Valley)	**Impacts to Dune Habitat from Foreseeable Future*** Projects** (Percent of all dune habitat in Chuckwalla Valley)	**Contribution of BSPP to future cumulative impacts+** (Percent of total impacts from Future projects)
150,136 acres	247acres 0.16% of total	16,921 acres 11.3% of total	37 acres 0.22%

*Based on the BLM NECO Landforms dataset (BLM CDD 2002) for the following values: crescentic dunes, longitudinal dunes, and undifferentiated dunes; does not include sandy plains or sand-covered fans (see **Biological Resources Figures 8** and **9** for Mojave fringe-toed lizard habitat)

** Includes only those existing projects between Desert Center and the Colorado River for which GIS-based spatial data was available at the time of the analysis; see **Biological Resources Table 9**

*** Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in **Biological Resources Table 9**

+ Includes the indirect effects from construction of the SCE Colorado River Substation, which would be mitigated under the authority of the CPUC.

Cumulative effects to dune habitat not reflected in this quantitative analysis include: obstruction of wind and fluvial sand transport systems (which are essential for the maintenance of the dunes) by new structures and wind fencing, fragmentation and degradation of remaining habitat by roads, development, off-road vehicles, altered drainage patterns, and the spread of noxious weeds and other invasive plants, such as Russian thistle and Saharan mustard. Habitat values for dune-dependent wildlife are also affected by increased predation from avian predators, which benefit from the new perching structures.

Biological Resources Table 19 illustrates the significant cumulative impacts to dune habitat (11.3% of active dunes) resulting from existing and foreseeable future projects in the NECO planning area. The Blythe project site makes no contribution to these effects as it was sited entirely on alluvial fans and away from any important dune formations. However, four acres of dune habitat south of I-10 (occupied by Mojave fringe-toed lizard) would be directly affected by the proposed interconnecting transmission line between the Project and the Colorado River Substation.

Construction of the substation, a Southern California Edison (SCE) project, would indirectly affect another 37 acres of dune habitat south of I-10. However, Southern California Edison would construct the substation and would undertake mitigation for biological resource impacts. The California Public Utilities Commission, not the Energy Commission, has jurisdiction and responsibility over Southern California Edison and construction and operation of the substation and can and should adopt mitigation to reduce the substation's impacts to less than significant. Staff believes that the construction of a 33-acre facility within the active wind transport corridor, and the reasonably anticipated downwind loss of habitat from obstruction of the dune-maintaining processes, is a significant effect. Staff recommends mitigation at a ratio of 3:1 (consistent with the NECO plan) for the facility footprint and the downwind effect. Staff conducted an analysis of private lands in the wind transport corridor of Chuckwalla Valley and believes it is feasible to require that acquisition of compensatory lands occur within the wind transport corridor of Chuckwalla Valley. Staff also believes that the construction will render the habitat vulnerable to infestation by Sahara mustard, which degrades the habitat by prematurely stabilizing the dunes and recommends that a weed management plan, consistent with that described in staff's proposed Condition of Certification **BIO-14**, should be prepared for the substation construction to minimize the potentially significant indirect effects of noxious weeds.

Thus, the Blythe Project contributes incrementally to a significant cumulative effect on active dune habitat. However, the Project's direct contribution to the cumulative loss of active dune habitat (4 acres) is not cumulatively considerable with implementation of Condition of Certification **BIO-20** for acquisition of dune habitat and Mojave fringe-toed lizard mitigation. Other mitigation measures recommended by staff to minimize indirect effects of the Project on dunes and dune-dependent wildlife and plants include the raven and weed management plans (**BIO-13** and **BIO-14**), Project mitigation monitoring in **BIO-6**, and the specification for preparation of a detailed revegetation plan for temporary disturbance contained in **BIO-8.**

H.2.13 Special-Status Plants

Las Animas Colubrina

The GIS-based analysis of cumulative effects to Las Animas colubrina habitat (**Figure 21**) used the NECO landforms dataset (BLM CDD 2002). The GIS summary of cumulative effects is misleading in this case because the 57 plants that would be destroyed by the Project occur just outside of the mapped range depicted in the NECO dataset. However, Las Animas colubrina in general occurs largely in steeper drainages in the mountains and foothills, which are less subject to direct and indirect cumulative effects of future renewable energy projects. Cumulatively considerable effects not reflected in the quantitative analysis include: spread of noxious weeds, which also fuel wildfires, and; an increase in the potential for fire from transmission lines and increased vehicle use.

Although a larger portion of the population of Las Animas colubrina would be avoided just upstream of the Project boundary (117 plants avoided), the Project nevertheless contributes incrementally to cumulative effects on Las Animas colubrina and its habitat. This incremental effect may be more significant given the highly restricted range of this species in California, and its position near the periphery of its global range. With implementation of the detailed Avoidance and Minimization Measures for off-site plants, guidelines for compensatory mitigation in **BIO-19**, and the implementation of the Weed Management Plan in **BIO-14**, the Project's contribution to the cumulative effects to habitat loss for Las Animas colubrina is less than cumulatively considerable. Project monitoring responsibility and worker training in **BIO-1** through **BIO-6**, Project monitoring in **BIO-7**, and the impact avoidance and minimization measures in **BIO-8** also minimize the potential for accidental impacts to avoided plants during construction and operation.

Harwood's Milk-vetch and Harwood's Phlox

Approximately 677 Harwood's milk-vetch were found in the study area, including in the solar fields, the linear facilities route, and along the Black Rock Road Disturbance Area. Many of the occurrences on the linear facilities route could be avoided, though direct impacts include potential accidental impacts to plants identified for avoidance. Indirect impacts include: the introduction and spread of invasive plants; erosion and sedimentation of disturbed soils; potential disruption of fluvial and aeolian sand transport systems that maintain habitat; alteration of drainage patterns, and; herbicide drift; disruption of photosynthesis and other metabolic processes from dust.

Approximately 2,134 Harwood's phlox were found in the Study Area; approximately 35 occurrences (with varying numbers of plants at each occurrence) were mapped along the transmission line route, some of which could be avoided. However, the indirect effects of construction of the substation would cause the loss of many plants and 33 acres of dune habitat. Harwood's phlox is documented from less than 20 occurrences, and much of its habitat is also at risk, as demonstrated in **Figure 20**. Staff considers the impacts cumulatively considerable, particularly when combined with the effects of introduction and spread of invasive plants; potential disruption of aeolian and fluvial sand transport systems that maintain its habitat; alteration of drainage patterns, and; herbicide drift from this and other reasonably foreseeable future projects.

Many new occurrences of Harwood's milk-vetch have been found in the I-10 corridor (Chuckwalla Valley and Palo Verde Mesa) during the project surveys for renewable energy projects here. Populations of Harwood's milk-vetch, like many other rare plants of the eastern California deserts, were considered relatively stable until recently, as the push for renewable energy development has placed many at risk. Although the numbers appear robust in the Project Vicinity in spring of 2010 (a wetter-than-normal season), there are also significant impacts to these occurrences including the direct effects of habitat loss and potentially more significant effects from disrupted geomorphic processes that maintain habitat, i.e., disruptions of the wind sand transport corridor and interruptions to sediment transport along the many small washes that contribute important fresh sands to the habitat. In addition, the inevitable spread of Sahara mustard along roads from the increased vehicle use prematurely stabilizes the dunes and disrupts the dune-building processes.

Biological Resources Table 14 and **Figure 20** quantifies the cumulative effects of the BLM renewable energy projects and other existing and future projects to the sandy substrates associated with Harwood's milk-vetch. Although Harwood's phlox prefers loose sand and dune habitats, like Harwood's milk-vetch, it is also found in other sandy habitats. Because the occurrence records for these two taxa are spotty in portions of its range, the analysis depicted in **Figure 20** was based instead on threats to potential habitat. However, the mapping of habitat should not be misconstrued as potentially occupied; rare plants (i.e., sessile organisms) have very specific microhabitat requirements that are often poorly understood. Actual distribution within mapped habitat is often confined to small or scattered and infrequent occurrences within an already restricted range. Rare plants can sometimes be locally abundant but highly restricted in their range.

The NECO landforms dataset was used; landforms selected to create the simple model of potential habitat include: sandy dissected fans; sandy plains; fans; dissected fans; undifferentiated plains, and undifferentiated dunes. This was based on a careful review of the landforms dataset overlaid with known occurrences of Harwood's milk-vetch from CNDDB occurrences and the Project-specific survey data. Staff expects that this model somewhat over-represents actual suitable habitat for Harwood's milk-vetch but cannot be refined until the more detailed soil mapping for the region (currently in development by the Natural Resources Conservation Service) is available. Occurrences of Harwood's phlox were not depicted in **Figure 20** but the impacts are considered in the analyses of direct, indirect, and cumulative effects.

The Project impacts to Harwood's milk-vetch and to Harwood's phlox, and to the dunes, sand sheets, and sandy washes on which these two special-status plants depend, are cumulatively considerable. With implementation of the detailed Avoidance and Minimization Measures, and compensatory mitigation requirements in **BIO-19**, the detailed Weed Management Plan in **BIO-14**, the compensatory mitigation requirements for dune habitat in **BIO-20**, and desert washes in **BIO-22**, the Projects impacts would be reduced to a level less-than-significant.

Although the Project's contribution to cumulative effects for Harwood's milk-vetch and to Harwood's phlox would be reduced to a level of less than cumulatively considerable, it is possible that the residual indirect effects of all proposed future projects — after mitigation to less than cumulatively considerable level — could combine to cause a cumulative effect. Such residual cumulative effects can only be addressed through a regional, coordinated, multi-agency effort aimed at preserving and enhancing large, intact expanses of habitat and minimizing the indirect effects of fragmentation, bird collisions, weed invasions, and other landscape-scale indirect effects.

The combined effects to the sandy habitat from all other future projects (10.8% of all habitat in the NECO) would remain significant after mitigation. These effects can only be addressed through the ongoing collaborative efforts by federal and state agencies to develop a Desert Renewable Energy Conservation Plan and BLM's Solar Energy Development Programmatic EIS for a regional mitigation approach.

C.2.8.8 CONCLUSION

Cumulative impacts to most biological resources from all foreseeable future projects within NECO are significant. Of particular concern are the cumulative effects on desert washes within the Palo Verde watershed; approximately18% of all washes in the immediate watershed could be affected by future projects. These impacts are attributed largely to the proposed solar projects north of the Project. Staff has concluded that with implementation of proposed Condition of Certification **BIO-22**, which specifies acquisition and enhancement of 1,320 acres of desert washes within or adjacent to the Palo Verde watershed, the Project's contribution to this cumulative effect is not cumulatively considerable.

Although the Project is not located near any DWMAs or critical habitat units and contains only habitat in the low-to-moderate range, it nevertheless contributes incrementally to overall impacts to desert tortoise habitat and loss of connectivity. Project's contribution to the cumulative effect of desert tortoise habitat loss is not cumulatively considerable with the incorporation of mitigation measures. The measures are: Condition of Certification **BIO-12**, which specifies that habitat acquisitions and enhancement measures occur within the Colorado Desert Recovery Unit in areas that have potential to contribute to desert tortoise habitat connectivity and build linkages between desert tortoise designated critical habitat, known populations of desert tortoise, and/or other preserve land; avoidance and minimization measures **BIO-1** through **BIO-8.**

The direct effects of habitat loss from all existing impacts and future projects are compounded by the indirect effects of fragmentation, impaired connectivity, an increase in invasive plants and predators, impaired sand and sediment transport systems (which help maintain dune and other ecosystems), increased human disturbance and vehicular mortalities, etc. Staff believes that with implementation of conditions of certification for compensatory mitigation of habitat loss, and the avoidance and minimization measures, including raven and weed control plans, revegetation plans, and other measures designed to minimize direct and indirect effects, the Project's contribution to cumulative impacts is not cumulatively considerable.

Although project-specific mitigation measures of the Blythe Project and all other foreseeable future projects would reduce project impacts to a level that is not significant, there are still minor residual impacts that contribute to cumulative impacts. These residual cumulative effects can only be addressed through a regional and coordinated planning effort aimed at preserving and enhancing large, intact expanses of wildlife habitat and linkages, including maintaining connections between wildlife management areas and other movement corridors.

Ongoing collaborative efforts by federal and state agencies to develop a Desert Renewable Energy Conservation Plan and BLM's Solar Energy Development Programmatic EIS offer an appropriate forum for such planning. Appendix B describes the Desert Wildlife Management Area management strategies that could achieve the goals of preservation and enhancement of wildlife connectivity in the NECO planning area. Staff supports these programmatic efforts and believes they represent an excellent means of integrating the State's and BLM's renewable resources goals and environmental protection goals.

APPENDIX I

Comment Letters

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Comment Letter 1

Brendan Hughes

06/06/2010 03:38 PM

To <asolomon@energy.state.ca.us>, <capssolarblythe@blm.gov>
cc
bcc
Subject Comments on Solar Millennium Blythe Solar Power Project

To whom it may concern:

My name is Brendan Hughes and I would like to comment on the Solar Millennium Blythe
Solar Power Project proposal. I believe CEC should favor a modified Blythe Mesa alternative
to the Solar Millennium proposal. This alternative would have much less environmental and
visual resource impact than the applicant's proposal. CEC should not enable the destruction
of California's wild heritage by allowing these proposals on intact public land. The Blythe
Mesa alternative meets all of the legitimate goals of the original proposal, without its
destructive consequences. The fact that CEC has several private land proposals before it, 1-01
such as the Beacon Solar Energy Project and the Abengoa Harper Dry Lake Project, and two
operational projects on private land at Kramer Junction and Harper Lake, demonstates that
this type of development is feasible. CEC should have no sympathy for Chevron (a
multi-billion dollar international corporation) and Solar Millennium's protestations that they
would have to deal with 20-40 private landowners to consolidate land for the Blythe Mesa
Alternative. Additionnally, Solar Millennium does not need to create such as large power
plant. Most of the projects currently before the CEC are 600 MW or less. A 1,000 MW plant
is an enormous, untested endeavor. CEC should think about approving such a large plant 1-02
when the largest plant currently in operation is less than 200 MW.

The fact that the visual impacts of the proposed project cannot be mitigated, along with the 1-03
unknown quantities of cultural resources on the site, should give CEC pause. Also, despite 1-04
what you say, the loss of 8,000 or so acres of intact desert habitat cannot be mitigated. 1-05

Thank you for your consideration.

Brendan Hughes

The New Busy think 9 to 5 is a cute idea. Combine multiple calendars with Hotmail. Get busy.

Comment Letter 2

Brendan Hughes

06/06/2010 03:45 PM

To <capssolarblythe@blm.gov>
cc
bcc
Subject Comments on Blythe Solar project (Solar Millennium)

I urge BLM to choose the No Action alternative for the Solar Millennium Blythe Solar power project. See my comments below to the California Energy Commission:

To whom it may concern:

My name is Brendan Hughes and I would like to comment on the Solar Millennium Blythe Solar Power Project proposal. I believe CEC should favor a modified Blythe Mesa alternative to the Solar Millennium proposal. This alternative would have much less environmental and visual resource impact than the applicant's proposal. CEC should not enable the destruction of California's wild heritage by allowing these proposals on intact public land. The Blythe Mesa alternative meets all of the legitimate goals of the original proposal, without its destructive consequences. The fact that CEC has several private land proposals before it, such as the Beacon Solar Energy Project and the Abengoa Harper Dry Lake Project, and two operational projects on private land at Kramer Junction and Harper Lake, demonstates that this type of development is feasible. CEC should have no sympathy for Chevron (a multi-billion dollar international corporation) and Solar Millennium's protestations that they would have to deal with 20-40 private landowners to consolidate land for the Blythe Mesa Alternative. Additionnally, Solar Millennium does not need to create such as large power plant. Most of the projects currently before the CEC are 600 MW or less. A 1,000 MW plant is an enormous, untested endeavor. CEC should think about approving such a large plant when the largest plant currently in operation is less than 200 MW.

The fact that the visual impacts of the proposed project cannot be mitigated, along with the unknown quantities of cultural resources on the site, should give CEC pause. Also, despite what you say, the loss of 8,000 or so acres of intact desert habitat cannot be mitigated.

Thank you for your consideration.

Brendan Hughes

Hotmail has tools for the New Busy. Search, chat and e-mail from your inbox. Learn more.

Comment Letter 3

"Drezner,Debbie"

06/15/2010 02:08 PM

To <CAPSSolarBlythe@blm.gov>
cc "Stites,Catherine M"
bcc
Subject Transmittal of comment letter regarding DEIS for Chevron Energy Solutions/Solar Millennium Blythe Solar Power Plant

Allison Shaffer,

Please find attached, Metropolitan Water District of Southern California's comments regarding the subject DEIS. These comments have been submitted within the commenting deadline for the DEIS posted as June 16, 2010 pursuant to the March 19, 2010 Federal Register Notice (75 FR 13275). The original hardcopy of this letter is being sent to you via Federal Express.

Please feel free to contact me via return e-mail or by phone at (213) 217-5687 if you have any questions regarding our submittal.

Thank you,

Debbie Drezner
Environmental Planning Team
Metropolitan Water District of Southern California
P.O. Box 54153
Los Angeles, California 90054-0153 Blythe Solar comment letter.pdf

MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Executive Office

JUNE 15, 2010

Via Electronic & U.S. Mail

Alan Solomon
Siting, Transmission and Environmental
Protection Division
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814

Allison Shaffer
Project Manager
Palm Springs South Coast Field Office
Bureau of Land Management
1201 Bird Center Drive
Palm Springs, California 92262

To Whom it May Concern:

Notice of Availability of the Draft Environmental Impact Statement and Revised Staff Assessment for the Chevron Energy Solutions/Solar Millennium, Blythe Solar Power Project and Possible California Desert Conservation Area Plan Amendment, CEC Docket No. 09-AFC-6, BLM Docket No. CACA 48811

The Metropolitan Water District of Southern California (Metropolitan) reviewed the Revised Staff Assessment and Draft Environmental Impact Statement (collectively, "DEIS") for the Blythe Solar Power Project and Possible California Desert Conservation Area Plan Amendment (Project). The U.S. Bureau of Land Management (BLM) is the lead agency under the National Environmental Policy Act (NEPA) for the DEIS and the California Energy Commission (CEC) is the lead agency (for licensing thermal power plants 50 megawatts and larger) under the California Environmental Quality Act (CEQA) and has a certified regulatory program under CEQA. Under its certified program, CEC is exempt from having to prepare an environmental impact report. Its certified program, however, requires environmental analysis of the project or a "staff assessment," including an analysis of alternatives and mitigation measures to minimize any significant adverse effect the project may have on the environment.

Metropolitan is pleased to submit comments for consideration by BLM and CEC during the public comment period for the DEIS and staff assessment.[1] In sum, Metropolitan provides these comments to ensure that any potential impacts on its facilities in the vicinity of the Project and on the Colorado River water resources are adequately addressed.

---

[1] Comments on the DEIS and Revised Staff Assessment are due June 16, 2010 per the Federal Register notice. 75 Fed. Reg. 13275 (March 19, 2010). This comment deadline applies to the CEC's Revised Staff Assessment issued June 4, 2010 regardless of whether it is finalized separately from BLM's DEIS as the relevant comment periods may not be reduced or altered retroactively.

Background

Metropolitan is a public agency and regional water wholesaler. It is comprised of 26 member public agencies serving more than 19 million people in six counties in Southern California. One of Metropolitan's major water supplies is the Colorado River via Metropolitan's Colorado River Aqueduct (CRA). Metropolitan holds an entitlement to water from the Colorado River. The CRA consists of tunnels, open canals and buried pipelines. CRA-related facilities also include above and below ground reservoirs and aquifers, access and patrol roads, communication facilities, and residential housing sites. The CRA, which can deliver up to 1.2 million acre-feet of water annually, extends 242 miles from the Colorado River, through the Mojave Desert and into Lake Mathews. Metropolitan has five pumping plants located along the CRA, which consume approximately 2,400 gigawatt-hours of energy when the CRA is operating at full capacity.

Concurrent with its construction of the CRA in the mid-1930s, Metropolitan constructed 305 miles of 230 kV transmission lines that run from the Mead Substation in Southern Nevada, head south, then branch east to Parker, California, and then west along Metropolitan's CRA. Metropolitan's CRA transmission line easements lie on federally-owned land, managed by BLM. The transmission lines were built for the sole and exclusive purpose of supplying power from the Hoover and Parker projects to the five pumping plants along the CRA.

Metropolitan's ownership and operation of the CRA and its 230 kV transmission system is vital to its mission to provide Metropolitan's 5,200 square mile service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way. 3-01

Project Understanding

Pursuant to the Project Description in the DEIS, Solar Millennium, LLC and Chevron Energy Solutions, the joint developers of this project (collectively, "Proponents"), propose to construct, own, and operate the Blythe Solar Power Project. The project is a concentrated solar thermal electric generating facility with four adjacent, independent, and identical solar plants of 250 megawatt (MW) nominal capacity each for a total capacity of 1,000 MW nominal.

The Project will utilize solar parabolic trough technology to generate electricity. With this technology, arrays of parabolic mirrors collect heat energy from the sun and refocus the radiation on a receiver tube located at the focal point of the parabola. A heat transfer fluid (HTF) is heated to high temperature (750°F) as it circulates through the receiver tubes. The heated HTF is then piped through a series of heat exchangers where it releases its stored heat to generate high pressure steam. The steam is then fed to a traditional steam turbine generator where electricity is produced.

The Project water needs would be met by use of groundwater pumped from one of two wells on the plant site. Water for domestic uses by project employees would also be provided by onsite groundwater treated to potable water standards. During construction, the Project proponent anticipates using up to 4,100 acre-feet of water over the course of 60 months. Following construction and for long-term operations, the average total annual water usage for all four units combined is estimated to be about 600 acre-feet per year (afy).

The Project site is located approximately two miles north of U.S. Interstate-10 (I-10) and eight miles west of the City of Blythe in an unincorporated area of Riverside County, California. The Blythe Airport is about one mile south of the site. The applicants have applied for a right-of-way grant from BLM for about 9,400 acres of flat desert terrain. The total area that will be disturbed by Project construction and operation will be about 7,030 acres. The area inside the project's security fence, within which all Project facilities will be located, will occupy approximately 5,950 acres.

Land Use Issues: Potential Impacts on Metropolitan Facilities

Although Metropolitan has not yet identified any direct impacts, the Project is in the general vicinity of Metropolitan facilities, perhaps as close as 8 miles. As described above, Metropolitan currently has a significant number of facilities, real estate interests, and fee-owned rights-of-way, easements, and other properties (Facilities) located on or near BLM-managed land in southern California that are part of our water distribution system. Metropolitan is concerned with potential direct or indirect impacts that may result from the construction and operation of any proposed solar energy project on or near our Facilities. In order to avoid potential impacts, Metropolitan requests that the final EIS and staff assessment include an assessment of potential impacts to Metropolitan's Facilities with proposed measures to avoid or mitigate significant adverse effects. 3-02

Metropolitan is also concerned that locating solar projects near or across its electrical transmission system could have an adverse impact on Metropolitan's electric transmission-related operations and Facilities. From a reliability and safety aspect, Metropolitan is concerned with development of any proposed projects and supporting transmission systems that would cross or come in close proximity with Metropolitan's transmission system. Metropolitan requests that the final EIS and staff assessment analyze and assess any potential impacts to Metropolitan's transmission system. 3-03

Water Resources: Potential Impacts on Colorado River and Local Water Supplies

Metropolitan is also concerned about the Project's potential direct and cumulative impacts on water supplies, specifically potential impacts on Colorado River and local groundwater supplies. As noted above, Metropolitan holds an entitlement to imported water supplies from the Colorado River. Water from the Colorado River is allocated pursuant to federal law and is managed by the Department of the Interior, Bureau of Reclamation (USBR). In order to lawfully use Colorado River water, a party must have an entitlement to do so. *See* Boulder Canyon Project Act of 1928, 43 U.S.C. §§ 617, et seq.; Arizona v. California, 547 U.S. 150 (2006). 3-04

As noted above, the Project proposes to use approximately 4,100 af of water during construction and 600 afy for long-term operations, using groundwater from a groundwater basin that is hydrogeologically connected to the Colorado River, within an area referred to as the "accounting surface." The extent of accounting surface area for the Colorado River was determined by the

U.S. Geological Survey (USGS) and USBR as part of an on-going rule-making process. *See* Notice of Proposed Rule Regulating the Use of the Lower Colorado River Without an Entitlement, 73 Fed. Reg. 40916 (July 16, 2008); USGS Scientific Investigation Report No. 2008-5113. To the extent the Project uses Colorado River water, it must have a documented right to do so.

Entities in California are using California's full apportionment of Colorado River water, meaning that all water is already contracted and no new water entitlements are available in California. In addition, the California contractors have agreed in the 1931 Seven Party Agreement to prioritize the delivery of California's Colorado River water among themselves. Under this priority agreement, proponents would have to obtain water from the existing junior priority holder, Metropolitan, which has the authority to sell water for power plant use. Metropolitan is willing to discuss the exchange of a portion of its water entitlement subject to any required approvals by Metropolitan's Board of Directors and so long as the Proponents agree to provide a replacement supply through an agreement with Metropolitan. As required by mitigation measures SOIL&WATER-2 and SOIL&WATER-16 in the Revised Staff Assessment, Proponents must fully address the impacts on Colorado River water resources and provide full mitigation for such impacts, including replacement of supply. 3-04 cont.

Additionally, CEC should assess the potential cumulative impacts of the use of the scarce Colorado River and local groundwater supplies in light of other pending renewable energy projects within the Colorado River Basin and the local groundwater regions. Metropolitan requests that the final EIS and staff assessment address the Proponent's water supply and any potential direct or cumulative impacts from this use. 3-05

We appreciate the opportunity to provide input to your planning process and we look forward to receiving future environmental and related documentation on this project. If we can be of further assistance, please contact Dr. Debbie Drezner at (213) 217-5687.

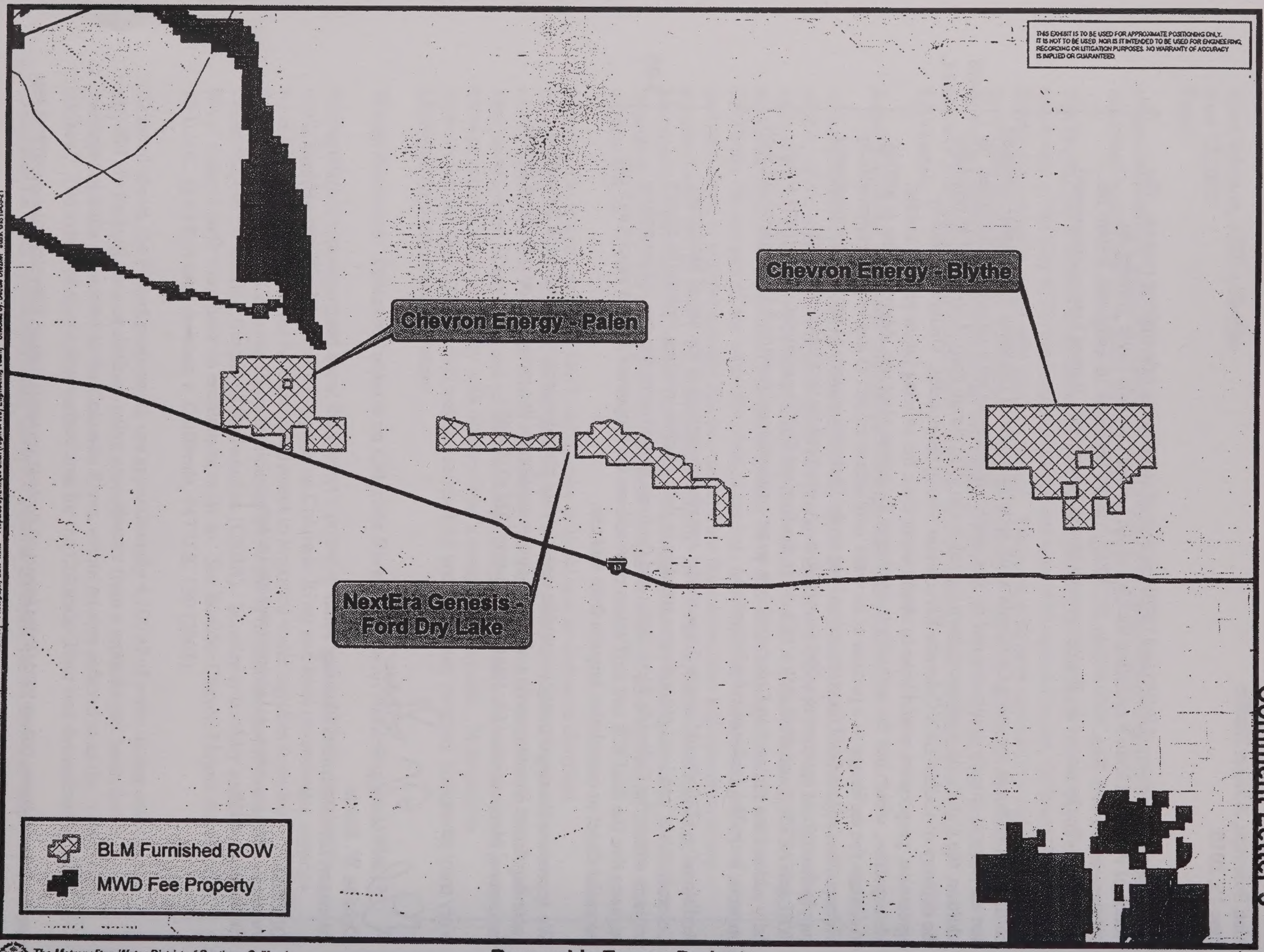
Very truly yours,

Delaine W. Shane

Delaine W. Shane
Manager, Environmental Planning Team

DSD/dsd
(Public Folders/EPT/Letters/EPT Final Letters PDF/2010/15-JUN-10C.doc)
Enclosures: Map

Comment Letter 3



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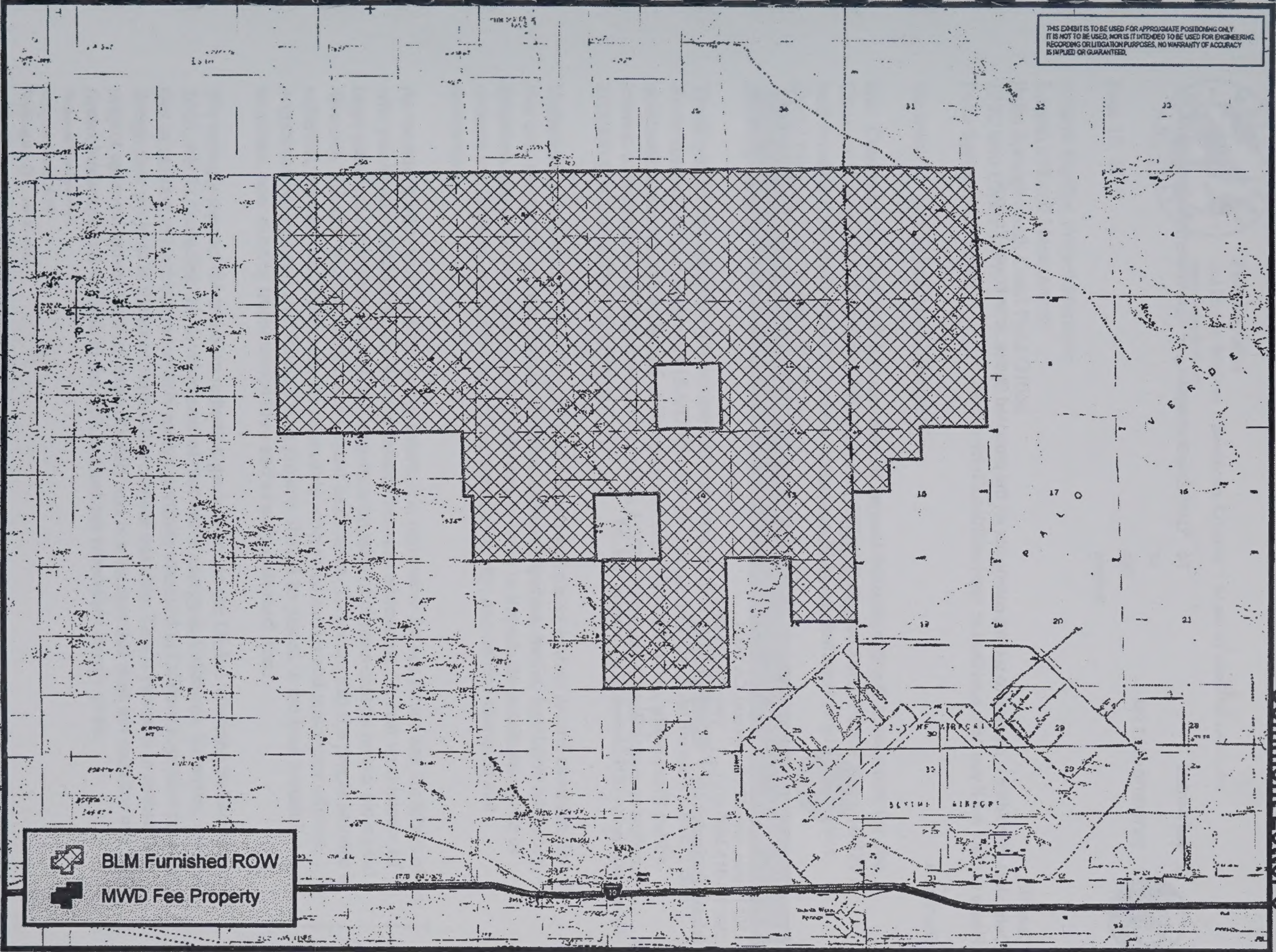
The Metropolitan Water District of Southern California
Corporate Resources Group

Renewable Energy Projects
MWD Right of Way

Comment Letter 3

1-11



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The Metropolitan Water District of Southern California
Corporate Resources Group

Renewable Energy Projects

Chevron Energy - Blythe

Miles
0 0.5 1

Comment Letter 4

Jeff Aardahl

06/16/2010 05:12 PM

To "CAPSSolarBlythe@blm.gov" <CAPSSolarBlythe@blm.gov>
cc
bcc
Subject

Dear Sir:
Defenders of Wildlife is pleased to submit comments on the proposed Blythe Solar Power Project. Please contact me if you have questions or need additional information.

Thank you.

Jeff Aardahl
California Representative

1303 J Street, Suite 270 Sacramento, CA 95814
Tel: 916-313-5800 x110 | **Fax:** 916-313-5812
jaardahl@defenders.org | www.defenders.org

Blythe Solar project SA_DEIS Comments_BLM_ Defenders_Final....pdf

Comment Letter 4

California Office
1303 J Street, Suite 270 | Sacramento, CA 95814 | tel 916.313.5800 | fax 916.313.5812
www.defenders.org

June 16, 2010

Allison Shaffer, Project Manager
Bureau of Land Management
Palm Springs-South Coast Field Office
1201 Bird Center Drive
Palm Springs, CA 92262

via email to: *CAPSolarBlythe@blm.gov*

Re: Comments on the Draft Environmental Impact Statement/Staff Assessment for the Chevron Energy Solutions/Solar Millennium (CESSM) Blythe Solar Power Plant (BSPP) and Possible California Desert Conservation Area Plan Amendment (Federal Register, 4/6/10 Notices, Vol. 75, No. 65: 17431)

Dear Ms. Schaffer:

Thank you for the opportunity to review and comment on the Staff Assessment/Draft Environmental Impact Statement (SA/DEIS) for the proposed Blythe Solar Power Project. These comments are submitted on behalf of Defenders of Wildlife (Defenders), a non-profit public interest conservation organization with more than 1,000,000 members and supporters nationally, 200,000 of which reside in California.

Defenders is dedicated to protecting all wild animals and plants in their natural communities. To this end, we employ science, public education and participation, media, legislative advocacy, litigation, and proactive on-the-ground solutions in order to impede the accelerating rate of extinction of species, associated loss of biological diversity, and habitat alteration and destruction.

As we transition toward a clean energy future, it is imperative for our future and the future of our wild places and wildlife that we strike a balance between addressing the near term impact of large scale solar development with the long-term impacts of climate change on our biological diversity, fish and wildlife habitat, and natural landscapes. To ensure that the proper balance is achieved, we need smart planning for renewable power that avoids and minimizes adverse impacts on wildlife and wild lands. These projects should be placed in the least harmful locations, near existing transmission lines and already disturbed lands. 4-01

We strongly support the emission reduction goals found in the Global Warming Solutions Act of 2006, AB 32, including the development of renewable energy in California. However, we urge that in seeking to meet our renewable energy portfolio standard in California, project proponents design their projects in the most sustainable manner possible. This is essential to ensure that project approval moves forward expeditiously and in a manner that does not sacrifice our fragile desert landscape and wildlife in the rush to meet our renewable energy goals. 4-02

National Headquarters
1130 17th Street, N.W.
Washington, D.C. 20036-4604
tel 202.682.9400 | fax 202.682.1331

We strongly support renewable energy production and utilization, but we do not consider the construction of large-scale projects, and especially the very large solar energy projects proposed on undisturbed public lands in the California Desert Conservation Area (CDCA), to be the primary way to meet our renewable energy goals. We believe such large scale solar projects must be located on degraded or disturbed land such as abandoned agricultural fields, industrial sites, and near existing structures before public lands containing natural plant and animal communities are considered. 4-03

The proposed project would entail the exclusive use of approximately 9,500 acres of public land managed by the Bureau of Land Management (BLM). The project would entail the construction, operation, and eventual decommissioning of solar-thermal electrical generating facility with a rated power output of approximately 1,000 MW. The proposed project would entail the construction, installation and operation of four independent powerplants of 250 MW each. Defenders submitted scoping comments on the proposed project on December 23, 2009.

Our comments are specifically directed at the Draft Environmental Impact Statement component of the subject document. We have submitted comments on the Staff Assessment portion of the document to Alan Solomon of the California Energy Commission (CEC). Our comments are presented below by subject:

I. National Environmental Policy Act (NEPA)

Purpose and Need: In specifying their EIS obligations under the National Environmental Policy Act (NEPA), federal agencies must "specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." 40 C.F.R. § 1502.13. Courts "have interpreted NEPA to preclude agencies from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished by only one alternative (i.e. the applicant's proposed project)." *Colorado Environmental Coalition v. Dombeck*, 185 F.3d 1162, 1165, 1174 (10th Cir. 1999), at 1174 (*citing Simmons v. United States Corps of Eng'rs*, 120 F.3d 664, 669 (7th Cir. 1997)).

BLM Purpose and Need: According to the DEIS, the stated purpose and need for the proposed project is to "…respond to Palo Verde Solar I's application under Title V of FLPMA (43 U.S.C. 1761) for a ROW grant to construct, operate, and decommission a solar thermal facility on public lands in compliance with FLPMA, BLM ROW regulations, and other Federal applicable laws." (SA/DEIS at A-11). In addition, "the BLM will decide whether to approve, approve with modification, or deny issuance of a ROW grant to Palo Verde Solar 1 for the proposed BSPP. The BLM's actions will also include consideration of amending the CDCA Plan concurrently." *Id.*

BLM Authorities: In addition to authorities granted to BLM through the Federal Land Policy and Management Act (FLPMA), the DEIS indicates that the Energy Policy Act of 2005 "…requires the Department of the Interior (BLM's parent agency) to approve at least 10,000 MW of renewable energy on public lands by 2015." (DEIS at A-12).

Comment: Instead of the current purpose and need statement focusing on the BLM responding to a right of way application under Title V of FLPMA, we recommend that the purpose and need statement address the need to generate and greater amounts of electrical energy from renewable energy sources so that dependency on carbon-based fuels is reduced, and to contribute to the requirement to generate certain minimum amounts of renewable energy to comply with State and federal standards. By providing a broader statement of purpose and need, BLM ensures the NEPA documents are legally defensible documents. 4-04

Comment: By so radically narrowing the scope of the project's purpose, BLM has impermissibly constricted the range of alternatives considered. *See Carmel by the Sea v. U.S. DOT*, 123 F.3d 1142, 1155 (9th Cir. 1995). Further, BLM has misinterpreted the intent of Congress in the Energy Policy Act in stating that the law "requires" BLM to approve at least 10,000 MW of renewable energy from public lands by 2015. (SA/DEIS at A-13). Rather, the Act encourages the Secretary of the Interior to approve a minimum of 10,000 MW of renewable energy from the public lands by the year 2015, which is correctly stated elsewhere in the document (*see* SA/DEIS at B.2-10). 4-05

Project Alternatives: In addition to properly defining the purpose and need of an agency action, agencies must consider a range of reasonable alternatives to the agency action in the EIS. *See* 42 U.S.C. § 4332(2)(E). The range of alternatives is "the heart of the environmental impact statement." 40 C.F.R. § 1502.14. NEPA requires BLM to "rigorously explore and objectively evaluate" a range of alternatives to proposed federal actions." *See* 40 C.F.R. §§ 1502.14(a) and 1508.25(c). The purpose of this requirement is "to insist that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means." *Environmental Defense Fund v. Cops of Engineers*, 492 F.2d 1123, 1135 (5th Cir. 1974); *see also Methow Valley Citizens Council v. Regional Forester*, 833 F.2d 810 (9th Cir. 1987), rev'd on other grounds, 490 U.S. 332 (1989) (agency must consider alternative sites for a project).

Comment: We are pleased that several alternatives are considered under both NEPA and California Environmental Quality Act (CEQA) standards by both BLM and the CEC. However, we are very concerned that a reduced acreage alternative that would allow for development only on the eastern one-half of the right of way application area was not included or considered. Such a reduced acreage alternative was included in our issue scoping letter of December 23, 2009. Our recommended reduced acreage alternative would have significantly reduced habitat loss and impacts to several species of special concern and provided an opportunity for project expansion to degraded private lands located immediately east of the public lands identified in the applicants project proposal. In fact, the CEC identified and analyzed an all-private lands alternative (Blythe Mesa Alternative) and found it to be reasonable. 4-06

Comment: The issue of site control is raised frequently by applicants, especially with regard to siting projects on private land. This has led to a situation where utility-scale, fast-track renewable energy projects are almost always proposed for public lands, with a few exceptions. Applicant's frequently cite difficulty in obtaining site control on private lands as a justification for limiting consideration of proposed projects to public land under BLM jurisdiction. With 4-07 regard to site control, applicants should be required to demonstrate to what extent they have sought to gain site control of private lands, including consolidation of multiple parcels. CEC and BLM staff should refrain from simply accepting the applicant's opinion that site control was deemed uncertain or too costly without independent verification and concurrence by the permitting agencies. 4-07 cont.

Comment: While we understand BLM has no jurisdiction over the use of private lands, by automatically dismissing all such alternatives as "unreasonable" (SA/DEIS at B.2-1), BLM appears to be acting arbitrarily. BLM has a duty to consider all potentially viable alternatives that would avoid or minimize significant impacts to public land resources and values. NEPA regulations require inclusion of reasonable alternatives not within the jurisdiction of the lead agency. *See* 40 C.F.R. § 1502.14(c). Dismissal of a private land alternative, or an alternative comprised of a combination of public and private lands, is unfortunate because it would very likely result in far fewer environmental impacts to significant cultural and biological resources. 4-08

Comment: BLM should include a reduced acreage alternative that would involve only the environmentally suitable public lands in the eastern portion of the proposed project area. This would enable BLM and the CEC to jointly consider an entirely new alternative that would be comprised of a combination of BLM lands and adjacent, degraded private lands located within Section I of the Blythe Mesa Alternative analyzed by the CEC. Combined, these two areas would likely accommodate a project that would allow for most of the desired power output envisioned by the applicant. BLM should strive to avoid or minimize to the maximum extent possible, loss of wildlife habitat for Sensitive and Special Status Species, and rare Desert Wash Woodlands, by including this recommended alternative in the NEPA process.

Cumulative Impacts Analysis: Cumulative impact is defined as the impact on the environment which results from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future action regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. 40 C.F.R. § 1508.7.

Comment: Although the SA/DEIS identifies a substantial number of existing and proposed land use activities that have and would add to the cumulative loss of significant cultural and biological resources, the depth of the analysis is insufficient to establish a clear condition and trend with regard to various at-risk species and their habitats in the region. The cumulative impact analysis should reveal the condition and trend of these resources and whether or not the current situation is one in which additional impacts due to projects on public land would conform to BLM policy as expressed in Manuals 6500 (Wildlife Habitat Management) and 6840 (Special Status Species Management), as well as legal mandates for public land management established by the FLPMA. 4-09

FLPMA mandates that public lands: "…be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will pro-vide for outdoor recreation and human occupancy and use;" (Sec.

102(8)) . FLPMA also addresses management of public lands within the CDCA: "the California desert environment is a total ecosystem that is extremely fragile, easily scarred, and slowly healed. (Sec. 601(a)(2)); and "the California desert environment and its resources, including certain rare and endangered species of wildlife, plants, and fishes, and numerous archeological and historic sites, are seriously threatened by air pollution, inadequate Federal management authority, and pressures of increased use, particularly recreational use, which are certain to intensify because of the rapidly growing population of southern California; (Sec. 601(a)(3)); and lastly, " It is the purpose of this section to provide for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality. (Sec. 601(b)). 4-09 cont.

Comment: The SA/DEIS should evaluate the impact of existing land and reasonably foreseeable land use activities within the planning area, in addition to those of the proposed project, for their effects on the CDCA and its fragile resources. Such an impact analysis must also address the requirements of FLPMA so that BLM can determine whether or not the public land management is being carried out consistent with FLPMA. We are very concerned that the "environmental quality" of the CDCA would not be adequately maintained if utility-scale renewable energy facilities are authorized on public lands that are largely in an undisturbed condition, and that contain intact, functioning biological communities. 4-10

Comment: We are concerned that the SA/DEIS concludes the project-specific and cumulative impacts to biological resources would be insignificant after application of mitigation measures. Specifically, the DEIS states, "Nonetheless, although project-specific mitigation measures for the Blythe Project and all other foreseeable future projects reduce project impacts to a less than significant level, minor residual impacts remain that contribute to cumulative effects." (SA/DEIS at C.2-154). We strongly disagree with this finding. Mitigation in the form of "replacement habitat" acquisition (compensation) rarely reduces impacts due to loss of habitat because the opportunities for habitat enhancements that would be needed to fully offset or substantially reduce impacts to less than significant levels are rare to non-existent. Habitat loss and the effects on species that depend on it is the most serious impact, and the proposed mitigation measures can't reduce the effect of such loss. Ultimately, significant habitat loss and impact to at-risk species would occur from the effects of the proposed project. Simply securing replacement habitat that already exists doesn't actually reduce or offset the effects. The most effective way of mitigating significant impacts is through avoidance, which would entail consideration and adoption of an alternative such as the one we have advocated for this proposed project. 4-11

Comment: An in-depth cumulative effects analysis of the impact of the past, present and reasonably foreseeable activities that have and will adversely impact at-risk biological resources should be performed. The effectiveness of the mitigation measures contained in the analysis should be reconsidered and analyzed by a team of knowledgeable experts. The most effective and efficient form of mitigation is impact avoidance, which is most often associated with alternatives such as reduced project scale, alternative locations and other effective measures. 4-12

Comment: There appears to be a lack of certainty with regard to what type and extent of mitigation would be sufficient to ensure maintenance of ecological processes and biological 4-13 resources within the planning area. Population viability for species of special concern and wildlife habitat connectivity are two specific concerns noted in the SA/DEIS. The following statement from the SA/DEIS underscores our concern over the adequacy of mitigation for the proposed and foreseeable projects: "Although project-specific mitigation measures of the Blythe Project and all other foreseeable future projects would reduce project impacts to a level that is not significant, there are still minor residual impacts that contribute to cumulative impacts. These residual cumulative effects can only be addressed through a regional and coordinated planning effort aimed at preserving and enhancing large, intact expanses of wildlife habitat and linkages, including maintaining connections between wildlife management areas and other movement corridors." (SA/DEIS at C.2-112 to 113). 4-13 cont.

II. Biological Resources

Biological Resources Impacts: The western one-half of the proposed project clearly contains the greatest diversity and density of biological resources. Defenders staff recently examined the proposed project site and hiked through the western half of the project area to the base of the McCoy Mountains. This entire area contains numerous braded washes of varying size and complexity, most of which support vegetation dependent on intermittent water flow from precipitation events. The Desert Woodland Wash vegetation, comprised largely of Palo Verde, Smoke Tree and Desert Ironwood, is very prominent in many of the washes. Another important vegetation association occurring largely in desert washes is that which contains Galleta Grass, often in combination Brittlebush and other shrubs. 4-14

Comment: The need to avoid or minimize impacts to these ephemeral desert wash habitats stems from their ecological and habitat values in this harsh desert environment. The diversity and physical structure of the ephemeral wash-dependent vegetation serves as the primary sheltering, feeding, nesting and movement habitat for nearly all wildlife species, both resident and migratory. This is the primary reason for our strong support for the project alternatives identified above. The ideal alternative would avoid all significant impacts, but reasonable alternatives would also include the reduced size and power output option we identified in our scoping comments and in this letter. We strongly believe that a 250 MW or 500 MW alternatives that is located within the eastern one-half of the proposed project must considered and fully analyzed in the SA/DEIS. 4-15

Comment: The extensive modification of the natural surface drainage system proposed to protect the developed facilities from the effects of uncontrolled surface water flow following precipitation events would be very detrimental to the biological resources on the site. All naturally occurring braded washes would be leveled and filled and surface waters captured and diverted around the developed site through engineered drainage channels. All biological and resources and their values would be lost. We consider alternatives to the proposed project the only viable means of eliminating or reducing this impact to acceptable levels. 4-16

Desert Bighorn Sheep: The SA/DEIS concludes that the McCoy Mountains contains suitable habitat for Desert Bighorn Sheep but are reported as currently unoccupied by the species. In the 4-17

2002 Northern and Eastern Colorado Desert amendments to the CDCA Plan[1], BLM identified the McCoy Mountains as an area supporting one of the numerous demes or bighorn subpopulations that comprise the larger Southern Mojave Metapopulation. The SA/DEIS assumes there would be no direct impact to Bighorn from the proposed project because the range is considered void of this species, but identifies a future indirect impact of "impairment" of habitat connectivity based on the assumption that conservation policies for this BLM Sensitive Species will eventually result in Bighorn occupation of the McCoy Mountains. (SA/DEIS at C.2-52). 4-17 cont.

Comment: We are unaware of any recent systematic surveys for Bighorn Sheep in the McCoy Mountains. Current status of the Desert Bighorn in the McCoy, Little and Big Maria Mountains and known and potential movement corridors between these ranges should be obtained from subject-matter experts. Defenders recommend that BLM obtain such information from Dr. John Wehausen and Steve Torres of the California Department of Fish and Game. It appears the CEC staff have updated some of the information on Desert Bighorn relative the proposed project and published it in their revised staff assessment dated June 4, 2010. The newly revised staff assessment from the CEC indicates that the current status of Bighorn Sheep in the McCoy Mountains is unknown because adequate inventory has not been performed, and that Desert Bighorn have been documented as occurring in the Little Maria Mountains. The presence of surface water at McCoy Spring located on the western slope of the range should be investigated because it would be a focal point for Bighorn use during the late spring through fall season. The results of such a survey would provide essential information needed to address this potential issue in the SA/DEIS. 4-18

Comment: We believe it is possible that the McCoy Mountains are occupied by Bighorn, at least seasonally, and that potential winter and spring seasonal foraging habitat for Bighorn Sheep occurs on the lower slopes and washes draining from the McCoy Mountains. This scenario is supported by statements in the SA/DEIS on page C.2-69. Considering that McCoy Spring, located on the western slope of the range, is a potential source of permanent water, it is extremely important that systematic Bighorn Sheep surveys throughout the range and especially in the vicinity of McCoy Spring in the summer and fall seasons be conducted before any conclusions are made with regard to the current status of this species in the range and in relationship to the proposed project. 4-19

Comment: An analysis of the impact to future habitat connectivity should be performed so that connective habitat can be identified in relationship to the proposed project and other planned solar projects located to the north and northeast. It is our understanding that the California Department of Fish and Game is developing a management plan based, in part, on subpopulations that are interconnected and supported by movements of individual animals between mountain ranges. Such movements and interconnected subpopulations are being identified through various techniques including DNA analysis, radio telemetry, field sightings and sign detection. 4-20

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[1] Bureau of Land Management. 2002. Northern and eastern Colorado Desert coordinated management plan: An amendment to the California Desert Conservation Area Plan of 1980. Moreno Valley, CA.

Comment: Construction of a rainwater catchment or guzzler as mitigation for possible impact to future bighorn connectivity habitat is speculative and questionable. Staff assumes a guzzler providing a reliable source of water would attract Bighorn and "expand foraging opportunities in the lower elevations of the mountains to replace spring foraging habitat lost to Project facilities." A guzzler installation as mitigation would seem more appropriate to consider if the habitat feature being impacted was a permanent water source utilized by Bighorn. Such is not the case, and we question whether the proposed guzzler would potentially provide any mitigation for loss of connectivity or seasonal habitat in the lover elevations of the McCoy Mountains. 4-21

Staff concludes that the projected loss of seasonal foraging habitat for Desert Bighorn on the eastern slope and bajada draining from the McCoy Mountains is considered significant (SA/DEIS at C.2-96 to 97). Although the McCoy Mountains and the adjacent Little Maria Mountains to the north across the span on McCoy Wash watershed are assumed in the SA/DEIS to be void of Bighorn Sheep but yet suitable habitat, this assumption has not been tested through recent systematic surveys by trained observers. Very little information was presented in the SA/DEIS about bighorn populations and movements on a regional basis, which ranges are currently occupied and where potential movement corridors may be located. Bighorn Sheep management planning on a metapopulation scale is currently underway within the California Department of Fish and Game. 4-22

III. Water Resources

The proposed project would require the use of substantial amounts of groundwater to support construction, operation and decommissioning, including site reclamation. Groundwater from the Palo Verde Mesa Groundwater Basin (PVMGB) is proposed as the water supply in support of the project. According to the recently published Revised Staff Assessment for the Blythe Solar Project, CEC concludes the PVMGB is currently in balance, with inflow and outflow of 1200 acre-feet per year being equal. The basin is also considered tributary to the Colorado River by the U.S. Geological Survey. The Boulder Canyon Project Act, 43 U.S.C. § 617 *et seq.*, and the Supreme Court Decree in *Arizona v. California*, 547 U.S. 150 (2006), require anyone who uses Colorado River water to have a contract with the Secretary of the Interior for the use of such water. All Colorado River water apportioned for use in California is already under contract. New users, such as the applicant, could seek a water delivery subcontract with the City of Needles (via the Lower Colorado Water Supply Project), a water transfer or exchange agreement with an existing contractor in California or seek a water supply that is not connected to the Colorado River. 4-23

With the lower Colorado River over-appropriated and in the midst of drought conditions, we support the concept in condition Soil&Water-3 of mitigating the effects of additional withdrawals from the Colorado River. We recommend that BLM clarify that the acquisition or creation of offsets to mitigate the withdrawal of 600 afy from the river does not obviate the need for a Colorado River contract or approved agreement with a Colorado River contractor. *See* DEIS at C.9-2 ("To mitigate the project's contribution to impacts to the Colorado River, the applicant must complete proposed condition of certification "Soil & Water-3", that would require acquisition of entitlements or offsets to Lower Colorado River water."). Similarly, BLM should make it clear that the lack of final regulations from the Bureau of Reclamation regarding 4-24 the use of Colorado River without an entitlement do not obviate the need for a contract for Colorado River water. Simply put, if wells on the proposed site withdraw Colorado River water, a contract or an approved agreement with an existing contractor is required. 4-24 cont.

Given that all Colorado River water in California is already under contract and that the Lower Colorado Water Supply Project is not a viable option for the applicant, *see* Letter from Gerald R. Zimmerman, Exec. Dir., Colorado River Board, to Alan H. Solomon, California Energy Commission (March 22, 2010), the applicant will have to enter into an agreement, to be approved by the Bureau of Reclamation, with another contractor, the Metropolitan Water District of Southern California ("MWD"). MWD's water supply may be vulnerable to shortages due to shortages on the Colorado River, in northern California, or from other sources of supply. 4-25

In order to determine the viability of the proposed project, BLM must disclose the likelihood of the applicant obtaining a legal water supply and the reliability of that supply for the life of the proposed project. BLM should then discuss the achievability of the proposed project in light of physical and legal water availability at the proposed site. 4-26

IV. Climate Change

The SA/DEIS notes the need to address the effects of climate change largely through reduction of greenhouse gases and development use of renewable energy sources. The SA/DEIS does not analyze the impacts climate change will have on species, and the effects of climate change on habitats that would be required to sustain viable populations of at-risk species. 4-27

Comment: This "hard look" requirement of NEPA requires federal agencies to consider climate change in NEPA documents. BLM must consider the effect of the proposed action on climate change, the effect of climate change on the proposed action and the effect of climate change on the affected environment. Climate change considerations are relevant throughout the NEPA process, from the scope of the environmental document and the description of the affected environment to the design of the proposed action, its alternatives and their environmental impacts. *See also* Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources, Secretarial Order 3289 (Feb. 22, 2010) (directing DOI agencies to consider and analyze climate change impacts when making major decisions affecting DOI resources), *available at* http://elips.doi.gov/app_so/act_getfiles.cfm?order_number=3289A1. 4-28

Comment: Analysis of the potential impacts of climate change on a proposed action and the environment is necessary to assess and reduce the vulnerabilities of the proposed action to climate change, to integrate climate change adaptation into the proposed action and alternatives and to produce accurate predictions of environmental consequences of the proposed action and alternatives. It will aid BLM in adequately preparing the proposed action or planning area for the inevitability of climate change. *See, e.g.,* Letter from Kathleen M. Goforth, Environmental Review Office, EPA, to Ramiro Villalvazo, Forest Supervisor, Eldorado National Forest (Oct. 26, 2009), *available at* http://yosemite.epa.gov/oeca/webeis.nsf/(PDFView)/20090313/$file/20090313.PDF?OpenElement. 4-29

Comment: BLM should expand the analysis of the effects of the proposed project and each alternative on biological resources and their ability to adapt to climate change, such as occupation and use of habitat on a regional scale that may be essential in sustaining at-risk species. Such an expanded analysis should include cumulative effects and mitigation measures, including those associated with climate change.[2] 4-30

Comment: Although the SA/DEIS addressed climate change, we encourage a more in-depth analysis of the importance of the Desert Woodland Wash habitats and habitat connectivity in sustaining species diversity and landscape level movements as temperatures in the Southwestern U.S. rise significantly over the next several decades, as predicted in numerous studies. BLM should include observed and projected impacts of climate change in the region – assess whether climate change has affected, is affecting, or will foreseeably affect each resource and incorporate that information into the analysis of each resource. Federal and state agencies have published reports, studies and plans that identify the observed and projected impacts of climate change on specific geographic areas or environmental resources and that are readily available to BLM. 4-31
BLM must consider the following impacts of climate change on the affected environment:

- Fish and Wildlife: habitat, composition, shifts to higher elevation/latitudes, reduced vegetation food sources, altered migration routes, less available water sources, streamflow change impacts on migratory aquatic species; 4-32
- Increases in the frequency, severity, duration and extent of extreme events such as drought, flooding, storms and heat waves; 4-33
- Soil: erosion, impacts to soil moisture, fugitive dust concentrations; 4-34
- Threatened and Endangered Species: effects of moisture stress on species, changes to migration patterns; 4-35
- Vegetation: Preferential CO2 metabolites, species migration, establishment of invasive species, pathogens, warm/cool season plants, growing season; 4-36
- Water: changes to availability, quality, quantity, precipitation patterns, flow regimes, dilution, water temperatures, elevation of snow pack, annual snow pack longevity, groundwater elevations, water rights; 4-37
- Wildfire: fire frequency, fuel load quantity and composition, fuel temperatures, relative humidity, water availability (e.g. for suppression), tree mortality due to drought and infestations, increased severe precipitation/soil loss; and 4-38
- Invasive species. 4-39

(See generally U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (Thomas R. Karl et al. eds., 2009), *available at*

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[2] *See* Secretarial Order 3226, *Evaluating Climate Change Impacts in Management Planning* § 4 (January 16, 2009) ("Each bureau and office of DOI shall, in a manner consistent and compatible with their respective missions: Consider and analyze potential climate change impacts when undertaking long-range planning exercises, setting priorities for scientific research and investigations, and/or when making major decisions affecting DOI resources"); Council on Environmental Quality, *Considering Cumulative Effects under the National Environmental Policy Act* 24, 42 (1997) (including documentation and analysis of global warming in the affected environment and effects), *available at* http://ceq.eh.doe.gov/nepa/ccenepa/ccenepa.htm (last visited Apr. 20, 2010).

http://downloads.globalchange.gov/usimpacts/pdfs/climate-impacts-report.pdf.) Some of these impacts and resources are explained below.

Comment: BLM must assess the impacts of proposed land use changes (i.e., construction on thousands of acres of desert soils) on the hydrology of the affected environment that contemplates the impacts of climate change. There is an extensive desert wash network within the proposed project site that would be largely removed, eliminating their hydrological and biological functions (SA/DEIS at C.2-54), and re-route them through a series of engineered channels. (DEIS at C.2-1.) Engineered channel design is based on current conditions and the 100-year flood and is not finalized. (SA/DEIS at C.2-55.) An increase in the frequency or duration of extreme rainfall events may change upstream and downstream surface water characteristics, soil moisture and the frequency and characteristics of the 100-year flood. BLM must evaluate the effects of climate change on surface water hydrology, the reasonableness of the assumptions behind the 100-year flood modeling, the efficacy of the engineered channels, and the ecological and mitigation values of the waterways to be acquired and protected in a climate-changed environment. 4-40

Thank you for considering our comments. If you have any questions, please contact me at or via email at .

Sincerely,

Jeff Aardahl

Jeff Aardahl
California Representative

Comment Letter 5

Alice Bond

06/16/2010 04:23 PM

To "CAPSSolarBlythe@blm.gov" <CAPSSolarBlythe@blm.gov>
cc Alan Solomon <Asolomon@energy.state.ca.us>, "jim_abbott@ca.blm.gov" <jim_abbott@ca.blm.gov>
bcc
Subject Blythe Solar Power Plant Comments - TWS and NRDC

Please accept and fully consider the following comments on the Draft EIS for the Blythe Solar Power Plant on behalf of The Wilderness Society and the Natural Resources Defense Council.

Thank you,

Alice Bond
California/Nevada Regional Office
The Wilderness Society
655 Montgomery St., Ste 1000
San Francisco, CA 94111
Office: 415.398.1111

To protect wilderness and inspire Americans to care for our wild places

Blythe DEIS Comments Final.pdf

Comment Letter 5

Alice Bond

06/16/2010 04:34 PM

To "CAPSSolarBlythe@blm.gov" <CAPSSolarBlythe@blm.gov>
cc
bcc
Subject RE: Blythe Solar Power Plant Comments - TWS and NRDC

My apologies – here are the comments with the exhibit.

Alice Bond
California/Nevada Regional Office
The Wilderness Society
655 Montgomery St., Ste 1000
San Francisco, CA 94111
Office: 415.398.1111

To protect wilderness and inspire Americans to care for our wild places

From: Alice Bond
Sent: Wednesday, June 16, 2010 4:24 PM
To: 'CAPSSolarBlythe@blm.gov'
Cc: 'Alan Solomon'; 'jim_abbott@ca.blm.gov'
Subject: Blythe Solar Power Plant Comments - TWS and NRDC

Please accept and fully consider the following comments on the Draft EIS for the Blythe Solar Power Plant on behalf of The Wilderness Society and the Natural Resources Defense Council.

Thank you,

Alice Bond
California/Nevada Regional Office
The Wilderness Society
655 Montgomery St., Ste 1000
San Francisco, CA 94111
Office: 415.398.1111

To protect wilderness and inspire Americans to care for our wild places

Blythe DEIS Comments Final.pdf Exhibit 1 - Desert Siting Criteria Memo June 29.pdf

THE WILDERNESS SOCIETY
NATURAL RESOURCES DEFENSE COUNCIL

June 16, 2010

CAPSSolarBlythe@blm.gov

Re: Draft Environmental Impact Statement and California Desert Conservation Area Plan Amendment for the Proposed Blythe Solar Power Plant

Ms. Allison Shaffer:

This letter constitutes the comments on the above-captioned proposed solar project and draft environmental impact statement (DEIS) of the Natural Resources Defense Council (NRDC) and The Wilderness Society (TWS), national environmental membership organizations with long histories of advocacy on behalf of the lands and resources administered by the Bureau of Land Management (BLM). More recently these organizations have been intensively involved in the Bureau's work to develop a comprehensive solar program as well as its efforts to "fast track" the permitting of individual utility-scale solar projects in California so that they may be eligible for grant funding under the American Recovery and Reinvestment Act of 2009 (ARRA).

5-01

Introduction. Our organizations recognize the need to develop the nation's renewable energy resources and to do so rapidly in order to respond effectively to the challenge of climate change. Unique natural resources here in California are already being affected by climate change, including, for example, the pikas of Yosemite National Park and the Joshua trees in Joshua Tree National Park. We also recognize that renewables development can help create jobs in communities that are eager for them, because of the nation's economic crisis. For these and other related reasons, our organizations are working with regulators and project proponents to move renewables projects forward. That said, renewable development is not appropriate everywhere on the public lands and must be balanced against the equally urgent need to protect unique and sensitive resources of the California Desert Conservation Area (CDCA). California is lucky indeed that we have sufficient renewable resources, including solar resources, to do their development in an environmentally and fiscally sensitive way.[1]

As we and our colleagues at sister organizations have repeatedly stated, the best way to develop the solar resources of the CDCA is through comprehensive, pro-active planning by both the federal government and the state to identify the most appropriate areas for such development -- *i.e.*, solar development zones -- and to guide development to those zones. *See, e.g.,* letter dated June 29, 2009 to Interior Secretary Salazar and California's Governor Schwarzenegger and signed by 11 organizations, including our own, attached as Exhibit 1.

We support the BLM's adoption of zone designation for its forthcoming solar programmatic EIS because of the benefits inherent in this approach, including but not limited to clustering development of large-scale projects in appropriate places, rather than permitting them to be located across the landscape in numerous locations. We also applaud the agency's – and the Interior Department's – commitment to work closely with the State of California in the development of the Desert Renewable Energy Conservation Plan which, as you may already know, will designate not only renewable energy development zones, but also zones for conservation as well as include a comprehensive mitigation strategy. The integration and completion of both of these efforts offers the promise of a balanced plan that will facilitate development of renewable resources in the Desert while protecting desert resources.

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[1] California's Renewable Energy Transition Initiative found, for example, that the state potentially could access 500 GW of renewable energy, an order of magnitude greater than the state's peak demand and far beyond the ability of our electric grid could handle.

Despite our fundamental belief in the critical importance of agency-guided development of renewables, rather than developer-initiated development, we have, as indicated, been investing a great deal of time and effort into the fast track projects. We have done so in response to the emphasis the Department, the BLM and the developers place on meeting ARRA deadlines as well as the potential role these projects could play in meeting the renewable generation and economic goals of the state and federal governments. We have also done so because we wanted to make the projects, and especially the utility-scale solar projects, as environmentally sensitive as they can be and because we wanted to ensure, to the extent possible, that their accompanying environmental documents are as sound as they can be. It is now apparent to us that not even the best of the environmental documents being produced for the fast track projects and/or the best projects should be models or precedents for the future. 5-02

The fast track project sites were chosen without the benefit of siting criteria developed either by desert activists, environmental organizations, scientists and others, *see* Renewable Siting Criteria for California Desert Conservation Area, attached to June 29, 2009 letter referred to above, or by the Bureau. The Bureau in fact has yet to develop any siting guidance that would help field staff, developers and others identify appropriate sites – i.e., those with relatively low resource values and fewer resource conflicts. Moreover, the projects themselves were designated by Interior and the BLM as fast track projects without consideration of potential environmental issues. And, equally important, the timetable established for review of these projects did not take into account their scale, the agency's lack of experience with the technologies involved, and the agency's lack of expertise permitting these kinds of projects. 5-03

Regardless of the outcome of the environmental review process for this or any other fast track project, we urge the BLM and the Interior Department to acknowledge publicly the deficiencies of the current process and to commit publicly to improving it. More specifically, we urge both entities to affirm that neither the current process, nor any of the project sites, nor any of the environmental documents, establish any legal or procedural precedents for future decision-making, siting or environmental review. We make this urgent recommendation notwithstanding the fact that this particular project appears to be proposed for a site with acceptable areas and the accompanying DEIS represents a slight improvement in several respects over other such documents. 5-04

The Blythe Solar Power Plant Project. The proposed project site has some characteristics that are conducive to solar development including a location near to existing infrastructure. The proposed site is 2 miles north of Interstate 10, which is also a designated utility corridor with existing and planned transmission lines. See Blythe Solar Power Plant Project CEC-BLM SA/DEIS at ES-2 and B.2-13. It is also 8 miles from the city of Blythe and there are approximately 1,622 acres of agricultural land, 147 acres of developed land (the Blythe airport) and 16 acres of disturbed land within one mile in the study area to the east and southeast of the proposed project site. Id. C.2-13. Another characteristic conducive to solar development is the transmission capacity that exists approximately five miles southwest of the Blythe project site. It appears that a gen-tie line would be built to connect to the Southern California Edison transmission system south of Interstate 10. Id. B.1-12.

Equally important, the lands in the eastern portion of this ROW application appear to be of comparatively lower natural resource values than some of the other ROW applications currently being considered for ARRA funding. The entire site includes no critical habitat for any listed species, and implicates no Area of Critical Environmental Concern (ACEC) designated by the BLM or other special agency designation. Also, although the site does provide habitat for desert tortoise, few desert tortoise, a federally endangered species, were found on the site, id. C.2-28, unlike other ARRA project sites such as Tessera's Calico project and Solar Millennium's Ridgecrest project which support sizable populations of this endangered species. See Calico Solar Power Project CEC-BLM SA/DEIS at C.2-3 and Ridgecrest Solar Power Project CEC-BLM SA/DEIS 5.3-1). While the above characteristics render some portions of the site more appropriate than some other locations for solar development, we do still have concerns about project impacts and the DEIS document.

Our principal concerns with the impacts of the Blythe Solar project at this time relate to three biological resources: desert washes and dependent desert dry wash habitat located on the western half of the ROW; Peninsular bighorn sheep which are federally endangered; and water resources and the habitat values associated with these resources in a desert environment.

Biological Resources: The western portion of the proposed project site clearly contains the greatest diversity and density of biological resources. The western half of the site contains numerous braided washes of varying size and complexity, most of which support vegetation dependent on intermittent water flow from precipitation events. The Desert Woodland Wash vegetation ("a sensitive vegetation community by the California Natural Diversity Data Base (CNDDB), BLM, and is also designated as state waters by CDFG," see Blythe SA/DEIS at C.2-17), comprised largely of Palo Verde, Smoke Tree and Desert Ironwood, is very prominent in many of the washes. Id. C.2-17. Another important vegetation community associated with these braided washes is the Brittlebush – Galleta Grass complex, which is "relatively uncommon" in the California deserts. Id. In addition, the greatest abundance and diversity of plant and animal species, including those with special status, are also concentrated in the western portion of the proposed project site. Staff considers impacts to the 551 acres of state jurisdictional waters, including 175.4 acres of desert dry wash woodland, and indirect impacts to as many as 133 acres to be significant. Id. C.2-54 and C.2-55. In addition, filling and diverting the water from these washes could "significantly alter the hydrology and wash-dependent vegetation of any features that may occur downstream." Id. C.2-54. Ephemeral wash-dependent vegetation serves as the primary sheltering, feeding, nesting and movement habitat for nearly all wildlife species, both resident and migratory. Impacts to these washes in the western portion of the proposed project site should be avoided or minimized in order to protect the important ecological and habitat values they provide. 5-05

A second area of concern is potential impacts of the proposed project to federally endangered bighorn sheep. The McCoy Mountains to the west of the proposed project site are believed to be unoccupied by bighorn sheep. Id. C.2-36. However, the McCoy Mountains have been identified as an important area for bighorn sheep recovery and sheep occur in mountain ranges adjacent to the McCoy Mountains. The Revised Staff Assessment provides new information that confirms bighorn sheep occurrence in the ranges near the McCoy Mountains and states that bighorn sheep do have the ability to recolonize the McCoy Mountains in the future. See Blythe Solar Power Plant Revised Staff Assessment C.2-38. The BLM needs to incorporate this information into its review of this proposed project and assess all project impacts – direct, indirect and cumulative – to this species. In particular, an analysis of impacts to future habitat connectivity should be performed so 5-06 that the proposed project and future projects do not prevent bighorn sheep recovery efforts and recolonization of the McCoy Mountains and other suitable habitat. In addition, bighorn sheep are difficult to detect in ranges like the McCoy Mountains where there may be a very low number of individuals. Id. C.2-37. Bighorn sheep surveys throughout the McCoy Mountains and especially in the vicinity of McCoy Spring in the summer and fall seasons should be conducted before any conclusions are made with regard to the current status of this species in the range and in relationship to the proposed project. 5-06 cont.

The third area of concern related to biological resources is impacts to water resources with regard to the project's on-site water use -- an important factor to analyze in the review of all solar projects proposed for desert environments. The DEIS indicates that groundwater from the Palo Verde Mesa Groundwater Basin (PVMGB) will be used to maintain and run the Blythe solar project. Id. ES-4 and C.9-2. Although the DEIS considers impacts to the PVMGB to be insignificant, it concludes that the project would place the basin into an overdraft condition and could have significant impacts to the Colorado River by inducing flow from the Colorado River into the Palo Verde Mesa. Id. C.9-2. Given this, we support the condition in Soil&Water-3 of offsetting the project's impacts to the lower Colorado River water. Id. 5-07

Cultural Resources: Analysis of the proposed project's impacts to cultural resources is still ongoing. Id. ES-16. The agencies are currently undertaking a negotiated stakeholder Programmatic Agreement (PA) that they expect to complete midsummer. This document will address mitigation for project impacts to cultural resources. In addition, cultural resources data compilation for the reconfigured alternative is ongoing and the analysis of impacts to cultural resources will be included in the Supplemental Staff Assessment that the CEC has already committed to prepare. Id. ES-16. Pending additional information and analysis on cultural resources, we reiterate our recommendation from our scoping comments that the BLM develop strategies to minimize and mitigate impacts on the area's outstanding cultural resources and engage in consultation with local Native American tribes. 5-08

DEIS Elements: Our concerns with the draft environmental review document itself relate to three key elements: the purpose and need statement, the alternatives considered, and the cumulative impact analysis, all of which were problems with the Bureau's first solar DEIS, the Ivanpah DEIS, and are showing incremental improvement with subsequent DEIS documents including the Blythe Solar Power Plant DEIS. We are also concerned about how the BLM will ensure that the new proposal(s) and new information that have come to light or will come to light after publication of the DEIS will be fully analyzed and made available to the public. To maximize the legal defensibility of the Blythe environmental review process, the BLM should seriously consider issuing a supplemental DEIS. 5-09

The purpose and need statement for this project is slightly broader than the one in the Ivanpah draft, but it remains too narrow. Ivanpah's original purpose and need was explicitly limited to a stark dichotomy: "approve" or "deny" the company's application for a solar project and, as the result, the first draft document addressed only the "no action" option and the "proposed project." A supplemental draft with a revised purpose and need and additional alternatives was issued in an attempt to remedy this egregious approach to "the heart" of the process established by the National Environmental Policy Act (NEPA). 5-10

The Blythe EIS draft states that the BLM's purpose and need is "to respond to" the company's ROW application. Id. A-11. The BLM should avoid both this mindset as well as too narrow a statement of purpose and need in order to help ensure that its EISs are legally defensible documents. In place of the statement that was used here, our organizations urge the adoption of the following to achieve these goals:

> The purpose of the proposed action is to "facilitate environmentally responsible commercial development of solar energy projects"[2] consistent with the statutory authorities and policies applicable to the Bureau of Land Management, including those providing for contributions towards achieving the renewable energy and economic stimulus and renewable energy development objectives under the Energy Policy Act of 2005 (EPAct), the American Recovery and Re-Investment Act, and Presidential and Secretarial orders.
>
> The need for this action is to implement Federal policies, orders and laws that mandate or encourage the development of renewable energy sources, including the Energy Policy Act of 2005, which requires the Department of the Interior to seek to approve at least 10,000 MW of non-hydropower renewable energy on public lands by 2015, and the Federal policy goal of producing 10% of the nation's electricity from renewable resources by 2010 and 25% by 2025; to enable effective implementation of the economic incentives for qualifying projects intended by the American Recovery and Reinvestment Act; and to support the State of California's renewable energy and climate change objectives, consistent with BLM's mandates and responsibilities.

5-10 cont.

This kind of purpose and need statement would clearly satisfy applicable legal requirements, see, e.g., National Parks Conservation Assn v. BLM, 586 F.3rd 735 (9th Cir. 2009), and thus help ensure that environmentally acceptable projects – which this project may end up being –will not only be permitted but will also be built without unnecessary delays.

Alternatives: The DEIS for the Blythe Solar project shows some minor improvement over the Ivanpah DEIS in its treatment of alternatives – in addition to the proposed project, two build alternatives are presented for NEPA analysis and three no project approval alternatives.[3] See Blythe DEIS at B.2-13.

We recommended in previous comments on this proposed project that the BLM avoid impacts to the western portions of the site where the desert dry wash woodland communities are located. The BLM has included two alternatives that reduce impacts to this portion of the project site: the reduced acreage alternative eliminates the power block in the southwest corner of the proposed project and reduces the project to 750 MW, id. B.2-3; and the reconfigured alternative moves the power block in the southwest corner approximately 0.8 miles south of its proposed location to avoid impacts to an unnamed major wash, id. B.2-13. It appears that the 750 MW smaller project alternative would substantially reduce the impacts to desert washes and desert dry wash woodland communities of the construction and operation of the proposed project, id. C.2-4, and the reconfigured project would reduce impacts to desert washes but increase impacts to desert dry wash woodland communities, id. C.2-4.

5-11 cont.

However, we are concerned that a true "range" of alternatives has not been considered and that the alternatives evaluated in the DEIS do not go far enough in avoiding impacts to the significantly higher biological resources on the western portions of the project site including significant and abundant desert wash woodland habitats comprised of various species including Palo Verde, Smoke Tree and Ironwood, and appreciable amounts of native perennial shrubs and grasses. The greatest abundance and diversity of plant and animal species occurs in the western portion of the proposed project site as well. 5-11 cont.

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[2] This quotation is from Secretary Salazar himself.

[3] One CEQA-only alternative is analyzed. See Blythe DEIS at B.2-17.

The range of alternatives is "the heart of the environmental impact statement." 40 C.F.R. § 1502.14. NEPA requires BLM to "rigorously explore and objectively evaluate" a range of alternatives to proposed federal actions. See 40 C.F.R. §§ 1502.14(a), 1508.25(c). "An agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action." Nw. Envtl. Defense Center v. Bonneville Power Admin., 117 F.3d 1520, 1538 (9th Cir. 1997). An agency violates NEPA by failing to "rigorously explore and objectively evaluate all reasonable alternatives" to the proposed action. City of Tenakee Springs v. Clough, 915 F.2d 1308, 1310 (9th Cir. 1990) (quoting 40 C.F.R. § 1502.14). This evaluation extends to considering more environmentally protective alternatives and mitigation measures. See, e.g., Kootenai Tribe of Idaho v. Veneman, 313 F.3d 1094, 1122–23 (9th Cir. 2002) (and cases cited therein). For this project and EIS, the consideration of more environmentally protective alternatives is also consistent with the Federal Land Policy and Management Act's (FLPMA) requirement that BLM "minimize adverse impacts on the natural, environmental, scientific, cultural, and other resources and values (including fish and wildlife habitat) of the public lands involved." 43 U.S.C. §1732(d)(2)(a). 5-12

NEPA requires that an actual "range" of alternatives is considered, such that the Act will "preclude agencies from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished by only one alternative (i.e. the applicant's proposed project)." Col. Envtl. Coal. v. Dombeck, 185 F.3d 1162, 1174 (10th Cir. 1999), citing Simmons v. U.S. Corps of Engineers, 120 F.3d 664, 669 (7th Cir. 1997). This requirement prevents the environmental impact statement (EIS) from becoming "a foreordained formality." City of New York v. Dep't of Transp., 715 F.2d 732, 743 (2nd Cir. 1983). See also Davis v. Mineta, 302 F.3d 1104 (10th Cir. 2002).

In order to ensure that the agencies are establishing a real range as well as to providing readers a fuller understanding of the tradeoffs inherent in the other "action" alternatives, we request that a 500 MW alternative on the more environmentally suitable public lands in the eastern portion of the proposed project area be considered.

In addition, we recommend that strong consideration be given to an alternative proposed by Defenders of Wildlife (comment letter on Staff Assessment/Draft EIS dated May 13, 2010) that would combine the disturbed private lands comprising Section 1 of the Blythe Mesa alternative and the public lands in the eastern portion of the proposed project site. Section 1 of the Blythe Mesa alternative and the eastern portion of the proposed project share a common boundary: "Section 1 is located on private land, immediately east of the proposed site, approximately 1 mile from the Blythe Airport." See Blythe DEIS at B.2-21. Section 1 is 2,780 acres in size and comprised of approximately 56 parcels with 10 landowners. Id. B.2-21. No residences are located within Section 1, and it has appropriate insolation and minimal slope, and has been previously graded for agriculture. Access to the site is via 1-10 at the W Hobson Way exit. There are no structures on this land, which is immediately north of the Blythe Energy Project Substation. Section 1 is sufficiently large for two 250 MW projects. Id. B.2-21. The eastern portion of the proposed project located on public land is sufficient in acreage to support the production of 500 MW (two 250 MW blocks). Combined, these lands appear to be sufficient in acreage to support a 1,000 MW project, the same size as proposed by the applicant. 5-13

The BLM's approach to the analysis of alternatives for the proposed project has unnecessarily limited the range of alternatives. The BLM states that it considers alternatives proposed to be located on lands outside of its jurisdiction to be "unreasonable." Id. B.2-1. In defining what is a "reasonable" range of alternatives, NEPA requires consideration of alternatives "that are practical or feasible" and not just "whether the proponent or applicant likes or is itself capable of carrying out a particular alternative"; in fact, "**[a]n alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable.**" Council on Environmental Quality, *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, Questions 2A and 2B, available at* http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm; 40 C.F.R. §§ 1502.14, 1506.2(d). The California Energy Commission (CEC) considers alternatives that include private lands provided site control can be obtained in a reasonable timeframe and with some certainty. In the case of the Blythe Mesa private land alternative, the CEC found this alternative to be potentially feasible given the small number of private land owners. See Blythe Revised SA at B.2-1. 5-14

Cumulative Impacts: In order to properly site renewable energy projects, it is essential that a cumulative impacts analysis be conducted to fully evaluate the implications of this type of development on public lands. There are multiple solar and transmission projects proposed in the vicinity of the Blythe Solar power plant that will contribute to overall cumulative impacts to sensitive resources in this area. A list of existing and future foreseeable projects along the 1-10 corridor in Eastern Riverside County is included in the DEIS. See Blythe DEIS at B.3-8 to B.3-13.

In addition to the proposed solar and transmission projects, the DEIS identifies residential development projects, a 500-mile race track, the Eagle Mountain Pumped Storage Project, and several other projects that will also contribute to cumulative impacts. Id. B.3-9 to B.3-13. While these projects are not being permitted by the Bureau, all reasonable efforts must be made to obtain information regarding their potential impacts and construction timing so that a full picture of cumulative impacts can be presented in the final EIS. 5-15

The DEIS utilizes qualitative information about these existing and foreseeable projects to develop estimates and model impacts to key topics such as air quality and biological resources. More quantitative information is highly desirable, to supplement this qualitative material. In addition, the cumulative impact analysis should evaluate at-risk species and their habitats in the region to identify the condition and trend for these species and whether additional impacts from current and foreseeable future projects would conform to BLM policy on special status species management (Manual 6840) and wildlife habitat management (Manual 6500). 5-16

New Information: Lastly, we are concerned, as indicated above, about the new information, including information on the proposed project's impacts to cultural resources in the reconfigured alternative, id. C.3-1, and the complete survey results including data from special status plant and golden eagle surveys conducted this year, id. C.2-4 that has been developed since the DEIS was printed. In addition, the California Energy Commission has released a new document, the Blythe Revised Staff Assessment, with relevant information to this project and information that was not available in the Blythe DEIS. If BLM issues a supplemental DEIS, new information in the Blythe Revised Staff Assessment should be incorporated into that document. 5-17

BLM should make every effort to ensure that all this new information is made available to the public (and other agencies) along with assessments and analyses of the information as well as that the public is given an opportunity to comment thereon. Public input on agency proposals is one of the hallmarks of NEPA review and it is to prevent the undermining of that critical aspect that limits have been imposed on agency efforts to "load up" final EISs with excessive amounts of new information. 5-17 cont.

Conclusion. In conclusion, some areas within the site proposed for this project appear to have fewer resource conflicts than some of the other sites currently being reviewed for fast-track projects, but nonetheless the impacts to the resources identified in these comments and to other desert resources must be fully analyzed, avoided, and mitigated through the BLM process. As we have previously noted, renewable development is not appropriate everywhere on the public lands and must be balanced against the equally urgent need to protect unique and sensitive resources of the CDCA. California is lucky indeed that we have sufficient renewable resources, including solar resources, to do their development in an environmentally responsible manner. 5-18

Thank you in advance for considering our comments. If you have any questions about them, please do not hesitate to contact us.

Sincerely,

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cc: Jim Abbott, Acting California State Director, BLM
cc: Alan Solomon, Project Manager, California Energy Commission

Audubon California
California Native Plant Society * California Wilderness Coalition
Center for Biological Diversity * Defenders of Wildlife
Desert Protective Council * Mojave Desert Land Trust
National Parks Conservation Association
Natural Resources Defense Council * Sierra Club * The Nature Conservancy
The Wilderness Society * The Wildlands Conservancy

Renewable Siting Criteria for California Desert Conservation Area

Environmental stakeholders have been asked by land management agencies, elected officials, other decision-makers, and renewable energy proponents to provide criteria for use in identifying potential renewable energy sites in the California Desert Conservation Area (CDCA). Large parts of the California desert ecosystem have survived despite pressures from mining, grazing, ORV, real estate development and military uses over the last century. Now, utility scale renewable energy development presents the challenge of new land consumptive activities on a potentially unprecedented scale. Without careful planning, the surviving desert ecosystems may be further fragmented, degraded and lost.

The criteria below primarily address the siting of solar energy projects and would need to be further refined to address factors that are specific to the siting of wind and geothermal facilities. While the criteria listed below are not ranked, they are intended to inform planning processes and were designed to provide ecosystem level protection to the CDCA (including public, private and military lands) by giving preference to disturbed lands, steering development away from lands with high environmental values, and avoiding the deserts' undeveloped cores. They were developed with input from field scientists, land managers, and conservation professionals and fall into two categories: 1) areas to prioritize for siting and 2) high conflict areas. The criteria are intended to guide solar development to areas with comparatively low potential for conflict and controversy in an effort to help California meet its ambitious renewable energy goals in a timely manner.

Areas to Prioritize for Siting

- Lands that have been mechanically disturbed, i.e., locations that are degraded and disturbed by mechanical disturbance:
    - Lands that have been "type-converted" from native vegetation through plowing, bulldozing or other mechanical impact often in support of agriculture or other land cover change activities (mining, clearance for development, heavy off-road vehicle use).[1]
- Public lands of comparatively low resource value located adjacent to degraded and impacted private lands on the fringes of the CDCA:[2]
    - Allow for the expansion of renewable energy development onto private lands.
    - Private lands development offers tax benefits to local government.
- Brownfields:
    - Revitalize idle or underutilized industrialized sites.
    - Existing transmission capacity and infrastructure are typically in place.

- Locations adjacent to urbanized areas:[3]
    - Provide jobs for local residents often in underserved communities;
    - Minimize growth-inducing impacts;
    - Provide homes and services for the workforce that will be required at new energy facilities;
    - Minimize workforce commute and associated greenhouse gas emissions.
- Locations that minimize the need to build new roads.
- Locations that could be served by existing substations.
- Areas proximate to sources of municipal wastewater for use in cleaning.
- Locations proximate to load centers.
- Locations adjacent to federally designated corridors with existing major transmission lines.[4]

High Conflict Areas

In an effort to flag areas that will generate significant controversy the environmental community has developed the following list of criteria for areas to avoid in siting renewable projects. These criteria are fairly broad. They are intended to minimize resource conflicts and thereby help California meet its ambitious renewable goals. The criteria are not intended to serve as a substitute for project specific review. They do not include the categories of lands within the California desert that are off limits to all development by statute or policy.[5]

- Locations that support sensitive biological resources, including: federally designated and proposed critical habitat; significant[6] populations of federal or state threatened and endangered species,[7] significant populations of sensitive, rare and special status species,[8] and rare or unique plant communities.[9]
- Areas of Critical Environmental Concern, Wildlife Habitat Management Areas, proposed HCP and NCCP Conservation Reserves.[10]
- Lands purchased for conservation including those conveyed to the BLM.[11]
- Landscape-level biological linkage areas required for the continued functioning of biological and ecological processes.[12]
- Proposed Wilderness Areas, proposed National Monuments, and Citizens' Wilderness Inventory Areas.[13]
- Wetlands and riparian areas, including the upland habitat and groundwater resources required to protect the integrity of seeps, springs, streams or wetlands.[14]
- National Historic Register eligible sites and other known cultural resources.
- Locations directly adjacent to National or State Park units.[15]

EXPLANATIONS

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[1] Some of these lands may be currently abandoned from those prior activities, allowing some natural vegetation to be sparsely re-established. However, because the desert is slow to heal, these lands do not support the high level of ecological functioning that undisturbed natural lands do.

[2] Based on currently available data.

[3] Urbanized areas include desert communities that welcome local industrial development but do not include communities that are dependent on tourism for their economic survival.

[4] The term "federally designated corridors" does not include contingent corridors.

[5] Lands where development is prohibited by statute or policy include but are not limited to:

National Park Service units; designated Wilderness Areas; Wilderness Study Areas; BLM National Conservation Areas; National Recreation Areas; National Monuments; private preserves and reserves; Inventoried Roadless Areas on USFS lands; National Historic and National Scenic Trails; National Wild, Scenic and Recreational Rivers; HCP and NCCP lands precluded from development; conservation mitigation banks under conservation easements approved by the state Department of Fish and Game, U.S. Fish and Wildlife Service or Army Corps of Engineers a; California State Wetlands; California State Parks; Department of Fish and Game Wildlife Areas and Ecological Reserves; National Historic Register sites.

[6] Determining "significance" requires consideration of factors that include population size and characteristics, linkage, and feasibility of mitigation.

[7] Some listed species have no designated critical habitat or occupy habitat outside of designated critical habitat. Locations with significant occurrences of federal or state threatened and endangered species should be avoided even if these locations are outside of designated critical habitat or conservation areas in order to minimize take and provide connectivity between critical habitat units.

[8] Significant populations/occurrences of sensitive, rare and special status species including CNPS list 1B and list 2 plants, and federal or state agency species of concern.

[9] Rare plant communities/assemblages include those defined by the California Native Plant Society's Rare Plant Communities Initiative and by federal, state and county agencies.

[10] ACECs include Desert Tortoise Desert Wildlife Management Areas (DWMAs). The CDCA Plan has designated specific Wildlife Habitat Management Areas (HMAs) to conserve habitat for species such as the Mohave ground squirrel and bighorn sheep. Some of these designated areas are subject to development caps which apply to renewable energy projects (as well as other activities).

[11] These lands include compensation lands purchased for mitigation by other parties and transferred to the BLM and compensation lands purchased directly by the BLM.

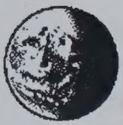
[12] Landscape-level linkages provide connectivity between species populations, wildlife movement corridors, ecological process corridors (e.g., sand movement corridors), and climate change adaptation corridors. They also provide connections between protected ecological reserves such as National Park units and Wilderness Areas. The long-term viability of existing populations within such reserves may be dependent upon habitat, populations or processes that extend outside of their boundaries. While it is possible to describe current wildlife movement corridors, the problem of forecasting the future locations of such corridors is confounded by the lack of certainty inherent in global climate change. Hence the need to maintain broad, landscape-level connections. To maintain ecological functions and natural history values inherent in parks, wilderness and other biological reserves, trans-boundary ecological processes must be identified and protected. Specific and cumulative impacts that may threaten vital corridors and trans-boundary processes should be avoided.

[13] Proposed Wilderness Areas: lands proposed by a member of Congress to be set aside to preserve wilderness values. The proposal must be: 1) introduced as legislation, or 2) announced by a member of Congress with publicly available maps. Proposed National Monuments: areas proposed by the President or a member of Congress to protect objects of historic or scientific interest. The proposal must be: 1) introduced as legislation or 2) announced by a member of Congress with publicly available maps. Citizens' Wilderness Inventory Areas: lands that have been inventoried by citizens groups, conservationists, and agencies and found to have defined "wilderness characteristics." The proposal has been publicly announced.

[14] The extent of upland habitat that needs to be protected is sensitive to site-specific resources. For example: the NECO Amendment to the CDCA Plan protects streams within a 5-mile radius of Townsend big-eared bat maternity roosts; aquatic and riparian species may be highly sensitive to changes in groundwater levels.

[15] Adjacent: lying contiguous, adjoining or within 2 miles of park or state boundaries. (Note: lands more than 2 miles from a park boundary should be evaluated for importance from a landscape-level linkage perspective, as further defined in footnote 12).

Comment Letter 6



Joan Taylor

06/16/2010 03:20 PM

To allison_shaffer@blm.gov, CAPSSolarBlythe@blm.gov
cc
bcc
Subject Sierra Club Comments on Blythe Solar

Attached please find comments on Blythe Solar Power Project submitted on behalf of the California/Nevada Desert Committee of Sierra Club.1

Blythe final-rdcd.pdf

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June 16, 2010

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VIA EMAIL, FAX AND MAIL

Re: Staff Assessment and Draft Environmental Impact Statement and Draft California Desert Conservation Area Plan Amendment for Blythe Solar Power Project

Dear Ms. Shaffer and Mr. Solomon:

The following comments regarding the Staff Assessment/Draft Environmental Impact Statement ("SA/DEIS") and Draft California Desert Conservation Area ("CDCA") Plan Amendment for the Blythe Solar Power Project ("project") are being submitted on behalf of the Sierra Club by its California/Nevada Desert Committee.

Sierra Club recognizes the need to develop the nation's renewable energy resources and to do so rapidly in order to respond effectively to the challenge of climate change. Unique natural resources here in California are already being affected by climate change, 6-01 including, for example, the pikas of Yosemite National Park and the Joshua trees in Joshua Tree National Park. We also recognize that renewables development can help create jobs in communities that are eager for them, because of the nation's economic crisis. For these and other related reasons, our organization is working with regulators and project proponents to move renewable projects forward. That said, renewable development is not appropriate everywhere on the public lands and must be balanced against the equally urgent need to protect unique and sensitive resources of the California Desert Conservation Area (CDCA), especially the need to retain core, landscape-level undisturbed lands for species movement likely to be caused by climate change. California is fortunate to have sufficient renewable resources, including solar resources throughout the State, to do their development in an environmentally and fiscally sensitive way. 6-01 cont.

We support a reduced Blythe Solar Power Project alternative and/or a conjunctive use alternative that avoids the microphyll and dry wash woodland habitat in the western part of the project, as requested during scoping and outlined below. However, we object to development of the full 10 square mile proposal because of its intrusion into high value habitat in the western portion of the project. Intrusion into this area is not necessary to achieve a legitimate project purpose and need, and it causes serious unmitigated direct, indirect and cumulative impacts. The project SA/DEIS has a number of significant flaws which require revision and recirculation of the document before any action may be taken. 6-02
Additionally, the Bureau of Land Management ("BLM") is embarking on approval of vast land conversion for renewable energy on a scale that was not in any way contemplated by its underlying planning documents (the CDCA Plan and the Northern and Eastern Colorado Desert Coordinated Management Plan). Therefore soon BLM will be out of compliance with its mandates under the Federal Land Management Policy Act of 1976 ("FLPMA"). Thus, BLM must revise its Management Plan to properly determine what level of acceptable change is sustainable, particularly given the uncertainties regarding the effects of climate change on sensitive species and habitats. 6-03

INTRODUCTION

The project site is located approximately two miles north of U.S. Interstate-10 (I-10) in an unincorporated area of Riverside County, California (Figure 1-1). The Blythe Airport is about one mile south of the site. The Applicants have applied for a right-of-way (ROW) grant from BLM for about 9,400 acres of flat desert terrain. The total area within the ROW that will be disturbed by Project construction and operation will be about 7,030 acres. The area inside the Project's security fence, within which all Project facilities will be located, will occupy approximately 5,950 acres of the ROW. The Proposed Project site is approximately 10 miles west of Blythe on the north side of Interstate (I-) 10, and borders the McCoy Mountains to the west.

We do commend the applicant for choosing a site adjacent to transmission and urbanization. However, the Colorado Desert, where the project would be located, is an extraordinarily sensitive and largely intact ecosystem. The entire project disturbance area of over 10 square miles is intact natural desert land. As stated in the SA/DEIS Executive Summary:

> Access to the site will be provided by a new public road. The BSPP site is nearly completely vacant and undisturbed and is almost entirely owned by BLM; two 160-acre private parcels exist within the ROW but neither of these is currently planned for use by the Project. There are no existing structures on the site.

In addition to threatened desert tortoise and Nelson's bighorn sheep, the SA/DEIS notes the diversity of wild predators in section 5.4:

> Large mammalian predator activity was documented across the BRSA during spring 2009. Predator digs, in round-tailed ground squirrel burrows, kit fox burrows and desert kangaroo rat complexes were numerous. The majority of predator activity in the BRSA appears to be by American badgers (Taxidea taxus) and desert kit foxes (Vulpes macrotis arsipus). Both badger dens and many mammal burrows with badger claw marks (where badgers were foraging for mammal prey) were present. Coyote (Canis latrans) activity was also noted, but more commonly observed on the eastern portion of the BRSA. Bobcat (Lynx rufus) scat was sometimes observed in several of the desert dry wash areas. Mountain lion (Felis concolor) likely uses the BRSA but no definitive sign for this species was observed.

Clearly, although the Blythe farming community is nearby, the project area is still a wild, diverse natural area. The project-caused direct, indirect and cumulative damage to desert biota and ecological processes is likely to be irreversible for hundreds of years or permanent, whereas the project's benefits are only temporary (30 years). Nonetheless, the California Energy Commission ("CEC") and United States Bureau of Land Management ("BLM") are rushing through critical environmental reviews and omitting essential information for the sake of the project applicant's arbitrary timetables. An applicant's supposed time constraints are not a recognized exception to the requirements of either the California Environmental Quality Act ("CEQA") or the National Environmental Policy Act ("NEPA") nor Federal Land Policy Management Act ("FLPMA"). It is crucial that a complete and thorough inquiry into the project's impacts be made *before* the CEC and BLM commit themselves to allowing irreversible environmental damage. 6-04

The SA/DEIS fails to comply with CEQA and NEPA in several distinct ways. First, it omits essential information and, as a result, fails as an informational document. Second, the SA/DEIS unlawfully defers the formulation of various studies and mitigation measures. Third, the assessment of the project's environmental impacts is inadequate. Significant impacts are deemed insignificant and impacts that can be mitigated are mistakenly found to be unavoidable. Fourth, significant unstudied changes have been made to the project not addressed in the SA/DEIS, and significant new information is planned to be added to the SA/DEIS at a future date, so the SA/DEIS must be re-circulated and an additional public comment period provided. Fifth, the discussion of Alternatives is inadequate insofar as it failed to properly analyze the distributed generation alternative and the use of alternative technology onsite. BLM rejected a private land alternative on the sole basis that it is inconsistent with the *applicant's* purpose and need, and 6-05 declined altogether to evaluate conjunctive use of public and private lands as a project alternative. Sixth, the SA/DEIS unlawfully segments the project by failing to consider the impacts of the related gen-tie transmission and natural gas pipeline required for the project. Seventh, the SA/DEIS does not address the fact that the BLM's governing planning documents are inadequate to guide the proposed action. 6-05 cont.

For these reasons, the SA/DEIS must be revised and re-circulated.

THE SA/DEIS OMITS CRUCIAL INFORMATION AND FAILS AS AN INFORMATIONAL DOCUMENT

NEPA requires agencies to take a "hard look" at how the choices before them affect the environment, and then to place their data and conclusions before the public before decisions are made and actions taken. CEQA is similarly intended to inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities. In violation of these fundamental precepts, the SA/DEIS fails to include critical information and a number of important studies whose inclusion is necessary for both the public and CEC/BLM to fully understand the environmental consequences of the project. For example, the specific location of the project-required gen-tie transmission lines and new natural gas lines has not been specified. A "possible transmission line route" is drawn on a few maps, but the SA/DEIS fails to positively define the area or disclose any evidence of surveys, analysis or recommended avoidance or mitigation measures for impacts caused by the needed transmission and pipelines: 6-06

> Generally speaking, the gen-tie line is expected to proceed directly south from the project site, eventually crossing I-10 and turning westward to SCE's planned Colorado River substation. This route may have a potential impact to the Blythe Airport and will be discussed in the Supplemental Staff Assessment publication in early July 2010.

As discussed more fully below, nearly *every* section of the SA/DEIS mentions an omitted study. Because the SA/DEIS fails to include critical studies and information necessary to fully understand the impacts that the Project will have, it violates both CEQA and NEPA.

Moreover, the SA/DEIS fails to provide adequate information regarding project alternatives and its reasons for rejecting environmentally preferable alternatives. For example, the SA/DEIS discussion on alternative solar technology (PV) simply provides conclusory statements in lieu of facts and analysis.. Because the SA/DEIS fails to provide a foundation for its rejection of viable and environmentally preferable alternatives, it again violates both CEQA and NEPA. 6-07

THE SA/DEIS IMPROPERLY DEFERS THE FORMULATION OF MITIGATION MEASURES AND STUDIES

Both NEPA and CEQA are intended to help decision makers make those decisions based upon high quality information. For this reason, both statutes prohibit agencies from relying on studies and documents that may be developed at a future date. Agencies are similarly prohibited from 6-08 conditioning the approval of projects upon the adoption of mitigation measures that may be recommended in a future study.

Here, the SA/DEIS unlawfully relies on a number of future studies and conditions project approval upon the adoption of mitigation measures that have not yet been created. For example, the Army Corps of Engineers has not yet determined whether waters of the United States occur onsite. However, mitigation of impacts to such waters are predicated on this finding pursuant to section 404 of the Clean Water Act. As identified in the Executive Summary, several other issue areas remain incomplete as to studies, analysis and/or mitigation:

> Where applicable, staff has identified any outstanding issues in the technical sections of the RSA. To resolve these issues, staff requires either additional data, further discussion and analysis, or is awaiting conditions from a permitting agency prescribing mitigation.
> Staff will work to resolve the outstanding issues and *plans on issuing a Supplemental Staff Assessment publication in early July 2010. In addition to the Cultural Resources, Land Use and Traffic and Transportation sections mentioned above, the Supplemental Staff Assessment will also have information from the following sections: [the following were listed: Air Quality, Biological, Transmission Engineering]*[emphasis added]

A Drainage, Erosion and Sedimentation Control Plan "that ensures protection of water quality and soil resources" is also incomplete, as is the Stormwater Damage Monitoring and Response Plan. Similarly, an examination of the historically significant cultural resources present at the site has not been completed.

6-08 cont.

Therminol VP1 is the heat transfer fluid (HTF) that will be used in the solar panels to collect solar heat and transfer it in order to generate steam to run the steam turbines. "Therminol is highly flammable and fires have occurred at other solar generating stations that use it. Approximately 1,300,000 gallons of HTF will be stored at the BSPP." (C.4-8) A Safety Management Plan, intended to reduce the likelihood of a hazardous waste spill, is still unformulated [c.4.22], as is a Construction Security Plan [c.4-20], Hazardous Materials Business Plan, a Spill Prevention, Control, and Countermeasure Plan, Process Safety Management Plan and an Operation Security Plan. Nor is a Decommissioning Plan formulated:

> The Draft Conceptual Decommissioning Plan (AECOM 2010d) does not provide sufficient information to guide the decommissioning of the channel or restoration of the Project Disturbance Area, nor does it provide any information that could be used to develop an estimate of the funding needed for those activities.
> Regulations promulgated by BLM at 43 CFR 3809.550 et seq. require a more detailed reclamation plan and an estimate. (C.2-77)

Additionally, the Programmatic Agreement to ensure mitigation of certain cultural impacts is not complete, depriving the public on an opportunity to comment on this aspect of the proposed project. Finally, the Biological Resources Mitigation Implementation and Monitoring Plan also is not developed:

> **The Project owner shall develop a Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), and shall submit two copies of the proposed BRMIMP to the BLM-Authorized Officer and the CPM for review and approval. (C.2-121)**

The sheer volume of omitted information is staggering. The public is prevented from assessing the adequacy of the nearly all of the project's most important mitigation measures because they have not yet been created. Whether or not these unformulated mitigation measures will themselves have environmental impacts is impossible to determine, potentially in violation of CEQA and NEPA. The CEC and BLM must re-circulate the SA/DEIS when all of these omitted studies, analyses and mitigation measures have been completed and included in the SA/DEIS. Without these studies, the SA/DEIS is incomplete as a matter of law. 6-08 cont.

THE DISCUSSION OF THE PROJECT'S ENVIRONMENTAL IMPACTS IS INADEQUATE.

Both NEPA and CEQA require agencies to identify the significant environmental effects of their actions. CEQA also requires that an action agency impose all feasible measures to mitigate these impacts, or make a finding of overriding considerations. All significant impacts *must* be mitigated *unless* mitigation measures to reduce these impacts are infeasible. Here, the SA/DEIS (1) fails to identify certain impacts altogether; (2) mislabels other significant impacts as insignificant; and (3) fails to adopt mitigation measures for those impacts found to be significant. 6-09

Biological Impacts

The SA/DEIS summarizes project biological impacts as:

> **The Blythe Solar Power Project (Blythe Project or Project) would have significant impacts to biological resources, eliminating all of the Sonoran creosote bush scrub and other native plant and wildlife communities within the approximately 7,077-acre site. The Blythe Project would also directly and indirectly affect an extensive network of desert washes comprising over 550 acres of state jurisdictional waters. The Blythe Project would significantly alter the hydrology of the area by re-routing these waterways through five engineered channels.**

Desert Wash and Microphyll Woodland

Clearly, the lead resource issue is avoiding/protecting the microphyll woodlands and associated wash vegetation that occur throughout the western portion of the project. The rarity and sensitivity of this riparian community is the main environmental concern. As identified by the biological consultants, the western 6-10 portion of the proposed project includes an unusually rich example of these woodlands and the related fauna dependent on these associations:

> In general, several species are likely to use habitat on the disturbance area, especially the ephemeral desert washes and associated wash-dependent vegetation communities... Movement by large mammals such as coyote, kit fox, mule deer, bobcat, American badger, and mountain lion would likely be concentrated in the wash areas because these areas may provide greater foraging opportunities.

Although the SA/DEIS acknowledges impacts to the extensive high value microphyll woodland on and offsite, it fails to adequately evaluate and avoid those impacts. As more fully discussed below, Sierra Club believes the project can and should avoid this habitat, by removing the power blocks in the western half of the proposed footprint, and if more than a 500 MW project is desired, potentially utilizing the private and public lands to the east of the current footprint. Most of these lands have been assessed for biological impacts in the SA/DEIS East Mesa alternative and been found to have substantially lesser value. 6-10 cont.

Desert Tortoise

The Mojave Desert Tortoise was listed as a "threatened species" under the Federal Endangered Species Act in 1990 because of the precipitous decline in desert tortoise numbers due to human-caused mortality and the destruction and fragmentation of desert tortoise habitat. Although the east half of the project is low value desert tortoise habitat, the west side has higher value and extensive microphyll woodland habitat consituents favorable to tortoise. Developing the project, especially the west half, on occupied desert tortoise habitat would contribute directly to the continued decline of the Mojave desert tortoise. 6-11

The *Desert Tortoise Recovery Plan* states: "Habitat outside DWMAs may provide corridors for genetic exchange and dispersal of desert tortoises among DWMAs" (1994, 60). Valleys are especially valuable for species connectivity as they may provide corridors for genetic exchange and dispersal among tortoise populations. This genetic exchange is essential for the long term survival and recovery of threatened desert tortoise. Therefore, by virtue of destroying habitat and/or a potential corridor connection for desert tortoise as acknowledged in the SA/DEIS will cause a significant impact by contributing to the continued decline of this imperiled species. The SA/DEIS has not adopted mitigation or avoidance to lessen those impacts.

Clearance surveys and translocation are not mitigation; they are a salvage operation to clear a proposed construction site of animals that are occupying the land. Moving desert tortoises from the site of any proposed solar power project will almost certainly lead to the death a significant percentage of the animals. Timothy Gowan and Kristin Berry (2010) report a mortality rate of 44 percent among a sample of 158 tortoises translocated from Fort Irwin's Southern Expansion Area in the Spring of 2008. 6-11 cont.

Even though translocating or relocating tortoise is largely ineffective, it is important to stress that it be done prudently, with thorough disease testing. Relocating tortoise without disease testing could imperil the health of both the animals to be moved and the resident populations into which tortoises will be released. Based on the reports of Berry, et al. (2008), Mack, et al. (2008) and Mack and Berry (2009) that disease is not uniformly distributed across geographical areas, it is reasonable to assume that there will be pockets of diseased animals and pockets of healthy animals within the 5 kilometer range of the project site. Not fully testing animals that are to be "relocated" could result in the introduction of diseases into otherwise healthy populations. And not testing the host populations within the 5 kilometer range could result in the introduction of healthy tortoise from the project site into a population that is diseased.[1] 6-12

Therefore, any translocation should follow the Desert Tortoise Council *Guidelines for Handling Desert Tortoise During Construction*. Additionally, any tortoises that are moved more than 1000' should be fully tested for disease (including by ELISA) and the host population should be tested to the same extent as well.

Nelson's Bighorn Sheep

Additionally the SA/DEIS fails to fully disclose and avoid or mitigate for potentially significant impacts to Nelson's bighorn sheep, a BLM designated sensitive species whose NECO Plan defined management area is within one half mile of the project footprint. Definite sign of Nelson bighorn was observed on the Project site, but at 5.4 the SA/DEIS acknowledges that: 6-13

> **Nelson's bighorn sheep scat and tracks were observed within the disturbance area during 2009 surveys, indicating that the species uses the site for dispersal and seasonal movement. Nelson's bighorn sheep is known within the region. While the species is generally associated with mountainous areas, desert floor areas are important for dispersal and seasonal movement.**
>
> **Populations of bighorn sheep within individual mountain ranges are often small, and there is typically considerable movement between mountain ranges; these intermountain movements are particularly important to long-term population viability. Bighorn sheep were documented moving through the disturbance area during 2009 field surveys (Figure 5.3-9).**

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[1] Desert Tortoise Council comments on Draft Ridgecrest Solar Power Project Desert Tortoise Clearance and Relocation/Translocation Plan. Attachment DR-B10-54, April 19, 2010

But no focused surveys for the species were conducted or required:

> While bighorn sheep sign was observed, focused surveys for this species were not conducted and this sign was noted incidentally during wildlife and botanical surveys. To quantify the use of this site by this species, focused surveys would need to be conducted.

6-13 cont.

NEPA and CEQA mandate full information and analysis of impacts that would restrict the range of this sensitive species. The SA/DEIS must include focused surveys, full analysis and quantification of impacts, including barriers to dispersal, dispersal requisite to ensure gene flow among neighboring metapopulations, and analysis of noise impacts of the project which are considerable. In the context of cumulative impacts of other solar project applications which fill the entire McCoy Valley, the responsible agencies have an affirmative duty to examine habitat connectivity for Nelson's bighorn and desert tortoise and address it now while greater options exist to ensure gene flow into the future. 6-14

American Badger and Other Protected Species

With regard to American badger, and several of the other sensitive species in the project disturbance area, the SA/DEIS contains no real quantification regarding the Project's impacts, save that they appear to have greater numbers in the western portion of the project site. This is because there were no focused surveys or analysis to gather adequate information, as acknowledged in the SA/DEIS:

> *Without focused surveys* for badgers it is difficult to determine the population size and dynamics as badger dens and evidence of foraging were observed incidentally during other general wildlife survey and focused surveys for other species. However, based on the distribution of burrows and burrows showing evidence of recent predation by badgers (claw marks) it can be concluded that this species is using the western portion of the disturbance area more heavily than the eastern portion.[emphasis added]

Thus, the SA/DEIS failed to perform adequate surveys, analysis and avoidance or mitigation for impacts to Nelson bighorn sheep and other sensitive species and habitat connectivity corridors. 6-15

No Surveys for Offsite Infrastructure

Additionally, the BLM and CEC have improperly segmented the environmental review for the project by failing to include the entire project in this SA/DEIS:

> Biological Resources Study Area includes the disturbance area acreage plus additional surrounding buffer areas around the site that are covered by the investigation in order to comply with regulatory requirements. The Project transmission line that will interconnect the Project with the regional grid is not included in this AFC because the route has not yet been finalized, as discussed earlier. The facility footprint encompasses the entire area within the fence line of the facility footprint, and also will include the transmission line when the route is finalized.

6-16

Plant Impacts

The SA/DEIS also fails to disclose significant impacts to all special-status plant species. For example, the SA/DEIS failed to require Fall surveys for sensitive plant species. In view of the scale of the project disturbance, 10 square miles, there is great potential for narrow endemic plants to occur onsite.

The SA/DEIS omitted to require fall surveys even though the specific issue arose during scoping. [2] The SA/DEIS fails to provide adequate analysis of project impacts to rare plants. Only Spring plant surveys were conducted, from February into April of 2010, and no fall surveys were required by the SA/DEIS. Unless all required plant surveys are completed *before* the mitigation measures are adopted, it is impossible to tell whether the mitigation measures will be effective. Moreover, fall surveys for special-status plant species have not yet been prepared. Because of these informational inadequacies, the SA/DEIS is legally deficient. 6-17

Cultural Impacts

The SA/DEIS discussion of impacts to cultural resources is incomplete and inadequate. Assessment of the short and long term adverse impacts to cultural resources is relegated to a programmatic agreement yet to be completed. The SA/DEIS states that:

> Mitigation for project impacts to cultural resources will be handled in a Programmatic Agreement (PA) negotiated among all stakeholders- federal, state, and private. Development of the PA by the BLM is underway, but will not be completed until mid-summer.

However, Native American activists assert that the project would have significant cultural impacts and would cause "desecration of the geoglyphs located in the project area."[3] 6-18

Not only has the SA/DEIS failed to adequately inform the reviewer as required by law, but also BLM has failed to satisfy its obligations under section 106 of the National Historic Preservation Act ("NHPA"). The NHPA requires agencies to take into account the impact of effects of their actions on historical resources *"prior to the issuance of any license."* Instead of completing this required process, BLM is opting to use a programmatic agreement to defer evaluation, mitigation, and treatment. 6-19

Here again the assessment of impacts and the formulation of mitigation measures is impermissibly deferred. At SA/DEIS 5.4-1, CEC and BLM assert: 6-20

> With implementation of *planned additional investigations* and appropriate mitigation measures, Project impacts on cultural resources *would be expected* to be less than

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[2] Sierra Club Blythe Solar Power Project scoping comments, December 23, 2009

[3] Declaration of Greenaction for Health and Environmental Justice Against 09-AFC-8, 09-AFC-6, and 09-AFC-7

> significant. Based on archival research, systematic field survey, and consultation with interested parties, 200 archaeological sites and one historic architectural resource were inventoried for the Project. At the historic architectural resource, and at 41 of the archaeological sites, the potential exists for significant impacts as defined by CEQA. [emphasis added]

6-20 cont.

The cultural resource surveys are incomplete and the cultural mitigation is not formulated. The SA/DEIS is incomplete because it omits critical information and mitigation and also fails to identify the potentially significant impacts shown above. Additionally, as noted below, the project transmission gen-tie lines and natural gas lines, key project components, have not yet been identified. Therefore all information, cultural or otherwise, is lacking for those yet-to-be-delineated, surveyed, analyzed or mitigated areas of impact:

> The cultural resources pedestrian survey included transmission line alignments which have since been abandoned due to changes in the location of a planned electrical substation. Although the cultural resources found along those transmission lines are presented in the attached Class III survey report, they are not reported here as they are no longer part of the proposed BSPP. When the transmission route is finalized, additional studies will be performed and the information provided to the agencies and other stakeholders. (5.4- 18)

6-21

Moreover, Alfredo Figueroa, representative of the Native American community has repeatedly rejected the applicant's studies, calling into question the credibility of the SA/DEIS cultural assessment. Before committing to the permanent destruction of irreplaceable cultural resources, CEC and BLM must, at the very least, determine the nature and extent of the cultural heritage they are obliterating.

6-22

Hydrology and Soils Impacts

The SA/DEIS' assessment of impacts to soil and water resources is likewise deficient,. The project is characterized as air-cooled; however there is some significant wet-cooling contemplated in summer months, causing a geometrical increase in groundwater use. The SA/DEIS is unclear on this subject, and needs to acknowledge if this is a hybrid wet cooled power plant, and how the increased groundwater consumption in an arid environment is justified, especially in view of the project's modest power output (2000 MWH a year, about 22% capacity factor. Thus, the project's generation capacity factor is only marginally better than PV, if at all, and at a far greater consumption of scarce groundwater resources.

6-23

Also, the project's impacts on waters of the United States are unknown. The project has the potential to cause massive amounts of runoff and erosion. Whether or not these impacts will be significant has yet to be determined because the SA/DEIS fails to include sufficient information.

6-24

> Jurisdictional waters delineations by Project scientists indicate that there are unlikely to be waters on the site considered jurisdictional by the U.S. Army Corps of Engineers (USACE), but USACE concurrence has not yet been obtained.

The project's consistency with section 404 of the Clean Water Act is uncertain. The SA/DEIS asserts that the project drains into a closed basin. In view of the project's slope to the Colorado River, we find this assertion less than credible, and no explanation of the "closed basin" referred to in the SA/DEIS is provided. This information must also be included in a re-circulated SA/DEIS. 6-25

Land Use Impacts

CEQA and the Warren-Alquist Act require the CEC to discuss any inconsistencies between the proposed project and applicable general plans and regional plans. In conflict with this requirement, the SA/DEIS fails to disclose two such inconsistencies. First, the Project is inconsistent with the Riverside County General Plan land use designation for the area. 6-26

Most importantly as stated above and further described below, the project (cumulatively if not individually) conflicts with BLM's own master planning documents, namely the CDCA Plan and the Northern and Eastern Colorado Desert CDCA Plan Amendment. 6-27

With regard to land use impacts, the SA/DEIS only acknowledges that "the proposed project may conflict with applicable Riverside County land use LORS regarding the project's impact on Blythe Airport operations. Staff is still investigating this issue and a final determination will be made in the supplement to the Staff Assessment" [C.6-16] However, the discussion of land use impacts is inadequate because (1) the project has unresolved inconsistencies with the Riverside County General Plan: "the project is located on land designated open space and rural desert. The project would convert almost 6,000 acres to industrial solar."[C.6-10] 6-28

Then the SA/DEIS proceeds to acknowledge that the :

> Open Space Rural" land use designation is applied to remote privately owned open space areas with limited access and a lack of public services and requires that "structures be designed to maintain the environmental character in which they are located...Ensure that development does not adversely impact the open space and rural character of the surrounding area [C.6-6 &7]

But, instead of clearly identifying the project's inconsistency with an existing General Plan, the SA/DEIS cryptically states: "Staff anticipates comments from Riverside County staff on this staff assessment related to the projects compliance with the Palo Verde Valley Area General Plan's Land Use Element." [C.6-11] This does not constitute the requisite analysis and avoidance or mitigation under NEPA and CEQA. 6-29

(2) The SA/DEIS fails to acknowledge that BLM's own governing planning documents are inadequate to provide guidance for this scale of land conversion.

The CDCA Plan is intended to provide comprehensive, long-range guidance with goals and specific actions for the management, use, development, and protection of the resources and public lands within the CDCA, based on the concepts of multiple use, sustained yield, and maintenance of environmental quality. The Plan should provide a desert-wide perspective of the planning decisions for each major resource or issue of public concern as well as more specific interpretation of multiple-use class guidelines for a given resource and its associated activities. However, clearly, neither the CDCA Plan nor its successor NECO Plan ever contemplated or addressed land conversion of the scale and intensity proposed by this and other large renewable energy projects throughout the California desert and immediate region. 6-30

With regard to the NECO Plan, the SA/DEIS acknowledges:

> The planning area encompasses over five million acres. The NECO Plan amended the CDCA plan in 2002 and is currently undergoing evaluation for further amendment. The CDCA Plan/NECO is related to the Draft Solar Energy Programmatic Environmental Impact Statement which is expected to be leased in 2011 and could give guidance as to how and where solar projects can be built on BLM lands. [C.6-6]

The issue of CDCA/NECO Plan inadequacy to provide guidance and limits of acceptable change for land conversion on the scale proposed by this and other solar projects.was raised in scoping comments, but apparently disregarded.[4] A re-circulated SA/DEIS must address this threshold issue.

Decommissioning and Other Missing Plans

As mentioned above, in violation of NEPA and CEQA, the SA/DEIS has no Decommissioning Plan:

> The planned operational life of the project is 30 years, but the facility conceivably could operate for a longer or shorter period depending on economic or other circumstances. If the project remains economically viable, it could operate for more than 30 years. However, if the facility were to become economically non-viable before 30 years of operation, permanent closure could occur sooner. In any case, a Decommissioning Plan would be prepared and put into effect when permanent closure occurs. 6-31
>
> The procedures provided in the decommissioning plan would be developed to ensure compliance with applicable LORS, and to ensure public health and safety and protection of the environment. The Decommissioning Plan would be

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[4] Sierra Club Blythe Solar Power Project scoping comments, December 23, 2009

> submitted to the CEC and BLM for review and approval prior to a planned closure.

Not only is this study not available for public review, but also the mitigations proposed for decommissioning could have impacts of their own. Unfortunately, this, and several other operational plans are completely lacking in the SA/DEIS. It is incumbent upon the responsible agencies to include a full Decommissioning Plan and other requisite plans in a re-circulated SA/DEIS for full public review. 6-31 cont.

Cumulative Impacts

Both NEPA and CEQA require agencies to consider the cumulative impacts of their actions. The project will have numerous impacts, some of which were not disclosed, and none of which were adequately mitigated. 6-32

> approximately one million acres of land are proposed for solar and wind energy development in the Southern California desert lands. The conversion of these lands would preclude numerous existing land uses including recreation, wilderness, rangeland, and open space, and therefore, would result in a significant immitigable cumulative impact. C.6-24

First, the Project will have cumulative impacts on the biotic resources of the region, some of which are identified in the SA/DEIS: 6-33

> For cumulative impacts to biological resources, the BSPP adds incrementally to the overall loss, fragmentation and degradation of native plant communities and wildlife habitat and impairment of wildlife connectivity. The combined effects of all existing and future projects are likely to remain significant even with implementation of project-specific mitigation because of these residual cumulative effects. Such cumulative effects can only be addressed through a regional and coordinated effort aimed at preserving and enhancing large portions of intact wildlife habitat and linkages, including maintaining connections between Desert Wildlife Management Areas and other desert tortoise habitat. (B.2-11)

> The BSPP is located in an area that could support local dispersal opportunities and provide habitat connectivity for special-status species, including DT, Nelson's bighorn sheep. DT and Nelson's bighorn sheep may move from the southwest to northeast or vice versa for population dispersal. While DT densities on the valley floor may be lower than in the adjacent mountain ranges, movement between local populations through intermountain valleys is important for long-term population viability. (Helix Biological Assessment)

However, the SA/DEIS fails to identify cumulative impact mitigation for Nelson's bighorn and other sensitive species adversely impacted by the project and other foreseeable projects. Proposed mitigation for cumulative biological impacts apparently consists of plan amendments to designate some primarily tortoise acquisition areas and one special management area.

> That portion of the rest of the Chuckwalla DWMA in the Palm Springs South Coast Field Office would be managed specifically for tortoise critical habitat and targeted acquisitions. It would be managed as a ROW avoidance area subject to a 0.25 percent total surface disturbance. BLM would collaboratively develop an activity plan for off highway vehicle management strategies within this portion of the DWMA to manage OHV use in desert washes in this area. (Biological Resources,Appendix B)

In context with the vast land conversion contemplated with renewable energy development, the concept of setting aside landscape-level conservation areas to mitigate for severe cumulative impacts of the project is laudable, and it is mandated by NEPA and CEQA. However, there are some serious deficiencies in the proposed mitigation. Targeted acquisition areas make sense, but the Chuckwalla DWMA is already serving as a tortoise mitigation area, where the Eagle Mountain landfill and other proposed projects have acquired compensation land in the past and presumably continue to do so today. Designation of a targeted acquisition area is not necessary for this to happen. 6-33 cont.

Also, Plan amendments can be changed; they are not permanent. The proposed mitigation of only Plan amendments does not provide the necessary permanent, unchangeable mitigation for severe cumulative impacts that will persist at least for hundreds of years beyond the life of the projects. The mitigation does not specify management prescriptions, and it allows undefined activities, "Casual use of the area would remain unaffected." (Biological Resources,Appendix B) 6-34
Additionally, the proposed mitigation does not address the cumulative impacts to the McCoy Valley and surrounding mountains and designated special management areas. In the context of other projects stacked up north of Blythe Solar, renewable energy development threatens to obliterate all meaningful natural resource values in this large, pristine interconnected landscape. 6-35

Second, the Project will have cumulative growth inducing impacts which have not been indentified, avoided or mitigated in the project review. The SA/DEIS concludes that no significant growth-inducing impacts will occur because the size of the project's workforce is modest. It then concludes that there will be no cumulative impacts. This conclusion is in direct conflict with CEQA, which directs that **"it must not be assumed that growth in any area is necessarily beneficial... or of little significance to the environment."** Guidelines § 15126.2(d). The SA/DEIS must attempt to quantify the growth inducing impacts of all other types of projects that are likely to spring up in east Riverside County after Project approval, because these impacts are "reasonably foreseeable." 6-36

Considered in the context of other proposed large energy projects in the region, the cumulative impacts of the project are significant in nearly every issue category. On a human time scale, these cumulative impacts will be permanent and pervasive, causing landscape-level biological, cultural and other impacts that will last hundreds of years or more after the expected lifetime of the projects. The SA/DEIS fails to identify all 6-37 cumulative impacts and to provide adequate avoidance and/or, permanent mitigation to offset project cumulative impacts. 6-37 cont.

THE SA/DEIS MUST BE RECIRCULATED WHEN THE MISSING INFORMATION IS ADDED.

As discussed above, critical information was omitted from the SA/DEIS and other information was inconsistent throughout the document. Given the importance and sheer volume of omitted information, the public has been deprived of the opportunity to comment on the project in a meaningful way. Under these circumstances, both NEPA and CEQA require recirculation of the environmental document. Because NEPA and CEQA are intended to provide the public with access to high-quality information, it is unlawful to release the DEIS and then attempt to fix its problems out of the public eye. If significant new information is added to the SA/DEIS, or existing information substantially changed, it must be re-circulated. 6-38

BLM UNLAWFULLY REJECTED SITE ALTERNATIVES, ALTERNATIVE TECHNOLOGIES AND DISTRIBUTED GENERATION ON THE BASIS OF INCONSISTENCY WITH THE APPLICANT'S PURPOSE AND NEED.

BLM's and CEC's Statements of Purpose and Need Reflects the Applicant's Needs, and Is Too Narrowly Drawn.

BLM failed to consider the East Mesa and other offsite alternatives under NEPA because none would accomplish the purpose and need for the proposed action: 6-39

> All site alternatives proposed to be located on lands not under the jurisdiction of the Bureau of Land Management are considered unreasonable by the Bureau of Land Management because none would accomplish the purpose and need for the proposed action, which is to is to respond to Palo Verde Solar I's application under Title V of FLPMA (43 U.S.C. 1761) for a ROW grant to construct, operate, and decommission a solar thermal facility on public lands in compliance with FLPMA, BLM ROW regulations, and other Federal applicable laws.

Similarly, BLM impermissibly rejected the use of alternative solar technologies onsite on the basis of inconsistency with the *applicant's* purpose and need: 6-40

> Alternative solar technologies are not required to be analyzed by the BLM because they fall outside BLM's purpose and need for the proposed action, which is to is to respond to Palo Verde Solar I's application under Title V of FLPMA (43 U.S.C. 1761) for a ROW grant to construct, operate, and decommission a solar thermal facility on public lands in compliance with FLPMA, BLM ROW regulations, and other Federal applicable laws.

Likewise, the BLM rejected the distributed renewable energy generation alternative on the same basis: 6-41

Alternative solar technologies are not required to be analyzed by the BLM because they fall outside BLM's purpose and need for the proposed action. 6-41 cont.

However, BLM's statement of purpose and need for the SA/DEIS is too narrowly drawn. Courts have held that, although an agency has discretion to define the purpose and need of a project, it cannot use "unreasonably narrow" terms to define a project's objective. The Department of Interior ("DOI") regulation, 40 C.F.R. § 1502.13 merely requires that an EIS briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action. DOI's NEPA handbook explains that the "purpose and need statement for an externally generated action must describe the BLM purpose and need, *not an applicant's or external proponent's purpose and need.* " Department of Interior, Bureau of Land Management, National Environmental Policy Act Handbook 35, (citing 40 C.F.R. § 1502.13) (emphasis added) 6-42

Instead, according to the SA/DEIS, the BLM's purpose and need is "to respond to the Palo Verde I's application under Title V of FLMPA (43 U.S.C. 1761) for a ROW grant to construct, operate and decommission a solar thermal facility and associated infrastructure in compliance with FLPMA, BLM ROW regulations, and other applicable federal laws." For this reason, BLM has declined to examine any off-site alternatives, alternative technologies or distributed generation, despite its duty to comply with NEPA.

As the Energy Policy Act, and related Secretarial and Executive Orders direct BLM to "encourage the development of environmentally responsible renewable energy" while complying with existing environmental laws – the project purpose and need statement need not be so narrowly drawn as to preclude the consideration of alternative locations and technologies. To do so reflects the needs of the project applicant, not the needs of BLM, in violation of NEPA. 6-43

BLM Unlawfully Rejected Site Alternatives and Failed to Consider Conjunctive use of Public/Private Land.

BLM also rejected the East Mesa site alternative because the alternative did not fall within the BLM's jurisdiction. In fact, an agency's refusal to consider an alternative that would require some action beyond that of its congressional authorization is counter to NEPA's intent to provide options for agencies. BLM's determination to narrow its purpose and need to preclude the analysis of alternative sites, and to avoid analysis of offsite alternatives because they are outside of its jurisdiction, renders the SA/DEIS deficient. 6-44

Additionally, in spite of scoping requests to do so,[5] the responsible agencies failed to consider a project alternative comprised of the east portion of the project in conjunction with degraded private lands to the east and south of the project. 6-45

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[5] Scoping comments, Sierra Club California/Nevada Desert Energy Committee, Dec 23, 2009

> **Additional requests were made that the private, disturbed lands immediately east of the BSPP be considered in conjunction with portions of the Blythe proposed site. (B.2.7)**

6-45 cont.

Relocation to an Alternative Site or Conjunctive Public/Would Reduce the Project's Impacts.

The East Mesa (private land) alternative site "consists mostly of fallow agricultural fields and active orchards. The Burlington Northern and Santa Fe Railway... traverses the northern and eastern portions of the Private Land Alternative site. Surrounding lands to the west are mostly undeveloped BLM land, and to the east are comprised of mostly agriculture but also include a Riverside County dumping site, golf course, and rural residences."[6] With regard to the East Mesa alternative, the Biological Assessment for the project found that:

> Few impacts to special status plant and animal species would be expected because the Private Land Alternative site is largely active and inactive agricultural land...wildlife movement across the site is already affected by the disruption in native vegetation communities from agriculture, and by the railway, nearby paved roads to the east, and the I-10 further south [7]

The Biological Assesment acknowledges the proposed project's virtually undisturbed state and environmentally sensitive resources, especially in the western half of the proposed project which is comprised of riparian threads and associated sensitive vegetation that is important habitat for protected species. The project Biological Assessment estimated 550 acres of jurisdictional waters on the proposed project, 245 acres of waters on the reduced project alternative, and only 54 acres of waters (including "a disturbed wetland that appears to have established from water releases from an irrigation aqueduct vent for an adjacent citrus orchard")[8] on the East Mesa alternative site. 6-46

An East Mesa or a conjunctive public/private land use alternative will greatly lessen the project's significant impacts, including destruction of vast amounts of desert wash resources as well as habitat and habitat connectivity for desert tortoise, bighorn sheep and other sensitive, threatened and endangered species. Accordingly, it is impermissible to reject the East Mesa alternative and to fail to analyze an alternative comprised of the east half of the project developed conjunctively with private lands (as requested during scoping.) These environmentally preferable alternatives should be properly analyzed and one of them adopted.

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[6] Helix Biological Reconnaissance Study for the Blythe Solar Power Project, Feb. 1 2010 p. 4

[7] Helix Biological Reconnaissance Study for the Blythe Solar Power Project, Feb. 1 2010 p.16

[8] Ibid, p. 5

BLM UNLAWFULLY REJECTED DISTRIBUTED GENERATION AND ALTERNATIVE TECHNOLOGY ALTERNATIVES WITHOUT ADEQUATE INFORMATION AND ANALYSIS

The SA/DEIS rejected the distributed generation and alternative technology alternatives, , asserting the following:

> Staff's analysis of renewable energy technology options indicates that contributions from each commercially available renewable technology will be needed to meet SCE's RPS requirements and to achieve the statewide RPS target for 2020 …the combined contribution of the alternatives of wind, other solar technologies, geothermal, and biomass is needed to complement rather than substitute for the Blythe Solar Power Project solar thermal contribution to meeting SCE and statewide RPS requirements…each of these four alternative technology options when considered individually is insufficient to meet the project objectives related to the RPS.

The above statement begs the question: is the SA/DEIS asserting that it must not consider alternative technologies not proposed by the Blythe Solar Power Project (and by inference every other large centralized solar project) on the basis that its particular technology is essential to meet the statewide RPS requirements? Currently there are 15 centralized solar projects totaling over 7,000 MW being fast-tracked to qualify for stimulus funding in California, and a total of 72 renewable energy projects applied for BLM land alone, totaling over a million acres of public land dedication and tens of thousands of megawatts of renewable energy. According to the SA/DEIS rationale, then each and every one of these projects should be approved as proposed, because alternative renewable technologies may only *complement* rather than substitute for a project. 6-47

The numbers demonstrate that there are many times more centralized generation applied for than is actually needed to meet the RPS requirements, and the law mandates that the responsible agencies fully consider environmentally preferable alternatives to a project. Thus, the SA/DEIS's conclusory alternatives analysis fails to comply with State and Federal environmental laws which require consideration of a reasonable range of alternatives which, under CEQA, could substantially reduce or avoid any potentially significant adverse impacts of the proposed project, or under NEPA, would inform decision makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.

Solar Photovoltaic Generation Would Meet Project Objectives and Avoid Most Significant Project Impacts

For instance, the SA/DEIS fails to properly identify and weigh the use of solar photovoltaic (PV) generation rather than solar thermal for the proposed project or its alternative sites: 6-48

> In analyzing the use of utility scale solar PV onsite, the SA/DEIS concludes: Would reduce water use but *not substantially reduce impacts* of the Blythe Solar Power Project. Alternative solar technologies are not required to be analyzed by the BLM because they fall outside BLM's purpose and need for the proposed action. (SA/DEIS Alternatives TABLE 1)[9]

What the SA/DEIS fails to acknowledge in its unsubstantiated rejection of using of solar PV instead of solar thermal is that: 1) PV technology has proven to be cost competitive with solar thermal ; 2) use of thin film PV would avoid or greatly lessen many of the project's adverse impacts. Those impacts that solar PV would avoid include: the project's water use and groundwater impacts[10], fire and hazardous materials disposal problems, greenhouse gas emissions associated with project-required natural gas use, offsite piping for same, glare impacts to the nearby Blythe airport, noise impacts to both sensitive human and wildlife receptors; and 3) that by using less than a third of the acreage, the use of crystalline silicon tracking solar PV would enable the project to leave undisturbed the vast bulk of microphyll woodland and other sensitive habitats, avoiding the most serious habitat impacts.[11] 6-48 cont.

Equally important, use of PV in lieu of solar thermal generation would allow the project to be economically and compatibly reconfigured onto non-contiguous private land parcels. This is extremely important because non-contiguity of adjacent private lands was determined to be a major stumbling block to the East Mesa alternative. Use of PV would make the East Mesa and other joint use of private and public land alternatives to the immediate south and east of the proposed project viable as compared to the currently proposed solar thermal technology. This is because (unlike solar thermal trough technology) PV is silent, non-glaring, and can be deployed in discrete polygons that have enormous flexibility as to their size, shape and contiguity with adjacent development polygons. 6-49

Distributed generation would fulfill project renewable generation goals while avoiding virtually all project impacts

As for its rejection of distributed generation as an alternative to the project, the SA/DEIS found, at Alternatives Table 1: 6-50

> While it will very likely be possible to achieve 1,000 MW of distributed solar energy over the coming years, the limited numbers of existing facilities make it difficult to

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[9] Here again, BLM impermissibly rejects a project alternative based solely on its unlawfully narrow purpose and need statement.

[10] First Solar proposes to wash its panels once a year or less (personal communication Wayne Hoffman to environmental representatives)

[11] The land requirement varies from approximately 3 acres per MW of capacity for crystalline silicon to more than 10 acres per MW produced for thin film and tracking technologies (NRDC 2008c). Therefore, a nominal 1,000 MW solar PV power plant would require between 3,000 and 10,000 acres. (SA/DEIS at)

> conclude with confidence that this much distributed solar will be available within the timeframe required for the Blythe Solar Power Project.
>
> Alternative solar technologies are not required to be analyzed by the BLM because they fall outside BLM's purpose and need for the proposed action.[12]

And again at B.2-54: 6-50 cont.

> However, achieving 1,000 MW of distributed solar PV or solar thermal would depend on additional policy support, *manufacturing capacity*, and *lower cost* than currently exists to provide the renewable energy required to meet the California Renewable Portfolio Standard requirements so additional technologies, like utility-scale solar thermal generation, are also necessary. [emphasis added]

The SA/DEIS analysis of the distributed generation alternative and its potential to provide to meet the California Renewable Net Short ("RPS") is erroneous, conclusory, and not supported by substantial evidence in the record. Distributed generation is not wholly dependent on policy support. Such potential exists today.

6-51

Recently, a presentation by Black &Veatch, the consultants for CEC's own Renewable Energy Transmission Initiative at a December 9, 2009 initial meeting of a new Renewable Distributed Energy Collaborative of the CPUC analyzed current distributed generation potential. Black & Veatch used the Global Information System (GIS) to identify and count sites for both ground-mounted PV near transmission substations as well as for large urban rooftops of about 1/3 acre within three miles of a distribution substation. Estimates were also made for smaller rooftops. Black and Veatch reported a wholesale distributed generation potential of 17,300 MW. This value is conservatively based on using only one-third of the actual potential capacity (52,000 MW), for reasons that are not explained. Data on the PV capacity of existing substations provided to the California Public Utilities Commission by investor-owned utilities indicates that these substations can accept approximately 20,000 MW of distributed PV with no upgrades required to the substations.[13]

The studies cited above show an estimated distributed solar generation capacity by 2020 of between 25,000 and 50,000 MW, which corresponds to an electrical energy potential of 50,000 to 100,000 GWh/yr. These figures indicate that distributed solar generation can provide not only a substantial portion of the 37,897 GWh/yr RPS Net Short, but probably much more than that. Based on these kinds of studies, Black and Veatch has recommended a scenario to meet new renewable electricity generation goals which would

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[12] Here again, BLM impermissibly rejects a project alternative based solely on its unlawfully narrow purpose and need statement.

[13] Black and Veatch, Summary of PV Potential Assessment in RETI and the 33% Implementation Analysis, December, 2009:

"replace central station solar and wind with distributed solar PV"[14] corresponding to about 30,000 GWh/yr of wholesale distributed generation. As we have seen, such a scenario would utilize only a portion of the wholesale distributed generation potential indicated in the studies. The potential for distributed solar generation actually goes beyond the numbers in these studies, which represent the most accessible commercial PV installations. Other, smaller rooftops are available for commercial PV power in urban areas, as are carports, other disturbed land, rail and highway right of ways, and so forth. 6-51 cont.

Also, we note that the SA/DEIS asserts that distributed PV must achieve lower costs to be competitive. However, RETI ascertained that PV is more cost-effective than solar trough at current thin-film PV pricing of $3,700/kW a/c[15] and SCE has assured CPUC that its distributed commercial rooftop program in Ontario, CA will cost $3.50/watt d/c,[16] or less than $4,000/kWa/c, virtually the same price per kW as Blythe Solar Power Project,[17] but without any transmission penalty added. 6-52

Finally, the SA/DEIS rejection of distributed generation asserts it would be infeasible to ramp up 1000 MW of distributed renewable energy within the time frame for the Blythe project, which is 69 months, or just shy of 6 years. However, estimated worldwide thin-film PV production capacity at the end of 2009 was approximately 7,400 MW.[18] First Solar, an Arizona company, manufactured and shipped more than 1,000 MW of thin-film panels in 2009.[19] Estimated worldwide conventional polycrystalline silicon PV production capacity reached 13,300 MW per year in 2008, and it is projected to reach 20,000 MW per year in 2010.[20] As a result, worldwide PV production capacity substantially exceeds current worldwide demand. The current estimated oversupply of PV panel manufacturing capacity for 2010 is 8,000 MW.[21] 6-53

As Southern California Edison stated in its March 2008 application to CPUC build a 250 to 500 MW urban PV project, "Because these installations will interconnect at the distribution level, they can be brought on line relatively quickly without the need to plan, permit, and construct the transmission lines." Typically, transmission lines require a ten-year planning and construction cycle. Added Commissioner John A. Bohn, author of the decision, "This decision is a major step forward in diversifying the mix of renewable resources in California and spurring the development of a new market niche for large scale rooftop solar applications. Unlike other generation resources, these projects can get built quickly... and without the need for expensive new transmission lines. And since they are built on existing structures, these projects are extremely benign from an environmental standpoint, with neither land use, water, nor air emission impacts." 6-53 cont.

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[14] Ibid

[15] RETI Phase 2B Final Report

[16] CPUC Proceedings, SCE Solar Roof Program, June 2009

[17] $4,000/kW is the cost claimed by Solar Millenium representatives (personal communication Alice Harron to Joan Taylor)

[18] Schreiber, D., EuPD Research, *PV Thin-film Markets, Manufacturers, Margins*, presentation at 1st Thin-Film Summit, San Francisco, December 1-2, 2008, p. 13.

[19] First Solar press release, *First Solar Becomes First PV Company to Produce 1GW in a Single Year*, December 15, 2009.

[20] Schreiber, D., EuPD Research, *PV Thin-film Markets, Manufacturers, Margins*, presentation at 1st Thin-Film Summit, San Francisco, December 1-2, 2008.

[21] B. Murphy, Fulcrum Technologies, Inc., *The Power and Potential of CdTe (thin-film) PV*, presented at 2nd Thin-Film Summit, San Francisco, December 1-2, 2009.

In conclusion, distributed PV generation on commercial rooftops and disturbed lands near load centers and substations has vast potential to meet the RPS net short and obviate the need for many land intensive facilities such as the instant project. And since distributed PV is sited in developed areas, it can do so while avoiding virtually all biological impacts to sensitive desert resources. The SA/DEIS must seriously consider this alternative.

THE SA/DEIS UNLAWFULLY REJECTED THE CONSERVATION AND DEMAND SIDE MANAGEMENT ALTERNATIVE WITHOUT ADEQUATE ANALYSIS

6-54

The SA/DEIS alternative analysis erroneously rejected the alternative of conservation and demand side management without foundation:

> Conservation and demand side management programs would likely not meet the state's growing electricity needs that would be served by the Blythe Solar Power Project. In addition, these programs would not provide the renewable energy required to meet the California Renewable Portfolio Standard requirements.
>
> Conservation and demand-management alone are not sufficient to address all of California's energy needs, and would not provide the renewable energy required to meet the California Renewable Portfolio Standard requirements.
>
> Staff's analysis of renewable energy technology options indicates that contributions from each commercially available renewable technology will be needed to meet SCE's RPS requirements and to achieve the statewide RPS target for 2020 (between 45,000 GWhs to almost 75,000 GWhs according to the 2009 IEPR).

The SA/DEIS has summarily dismissed the conservation/demand side management alternative without adequate foundation. First, the SA/DEIS refers to the State's "growing electricity needs" but fails to acknowledge that California's energy usage has entered a downward trend. Considering the State-mandated standard of 100% efficiency, this assertion is even more questionable; such efficiency has been forecast to achieve an enormous reduction in electrical energy use. The SA/DEIS's conclusory analysis also failed to quantify or recognize the significant contribution that energy conservation makes to achieving RPS goals. That is, for every 1000 megawatt hours of electrical energy saved by conservation or efficiency, 333 megawatt hours less of renewable generation are needed for the load-serving entities to meet their RPS goals, because the net short "pie" has been reduced.

As outlined above, distributed commercial-scale PV generation can meet 2/3 of the "net short" of renewable energy to meet 33% renewables by 2020 at a competitive and probably more economical cost than these large utility scale remote transmission dependent solar thermal projects. Additionally, the potential for conservation and efficiency is enormous. Thus, the potential for energy efficiency alone or in combination with distributed generation clearly demonstrates that no individual utility scale solar project, or portion thereof, is indispensible. Indeed, the responsible agencies have an affirmative duty to seriously consider conservation and demand side management as a feasible alternative to avoid significant unmitigable impacts of a project, or even as an alternative to an entire project. The SA/DEIS has unlawfully failed to do so. 6-54 cont.

THE SA/DEIS UNLAWFULLY SEGMENTS THIS PROJECT BY IGNORING ITS RELIANCE ON OFFSITE TRANSMISSION AND NATURAL GAS

CEQA requires agencies to consider the environmental impacts of "the whole of [their] action" so as to ensure "that environmental considerations do not become submerged by chopping a large project into many little ones - each with a minimal potential impact on the environment - which cumulatively may have disastrous consequences." Guidelines § 15378

NEPA also requires that connected actions be considered together in the same EIS. Connected actions are those that (1) automatically trigger other actions potentially requiring EISs; (2) cannot or will not proceed unless other actions are taken previously or simultaneously; or (3) are interdependent parts of a larger action and depend on the larger action for their justification. 6-55

Here, the entire project is dependant on construction of the necessary transmission ties to the grid and 10 miles of new gas lines. Until requisite gen-tie lines and gas powerlines are completed, this entire project cannot proceed. Accordingly, "whole ... action" would include both of these "connected" projects; their environmental impacts must be considered in the same document. Guidelines § 15378(a); 40 C.F.R. § 1508.25. Here, however, the SA/DEIS simply defers any specific analysis of these connected projects to a future time: " ." SA/DEIS Because the SA/DEIS fails to include an assessment of the environmental impacts of the entirety of the project, it violates both CEQA and NEPA.

BLM APPROVAL OF THE PROJECT, ALONG WITH OTHER MASSIVE PROJECTS, VIOLATES FLPMA AND REQUIRES REVISION OF THE CDCA PLAN AND ITS NECO PLAN AMENDMENT

The SA/DEIS acknowledges that, although 6-56

> the site for the proposed project is currently classified within an MUC L area, solar power facilities are generally allowed, the CDCA Plan requires that newly proposed sites associated with power generation or transmission facilities not already identified in the Plan will be required in order to determine the suitability of the proposed site for renewable energy development, and to approve or not approve the site location.

However, the SA/DEIS fails to address the underlying deficiency in its master planning documents for the project area: namely, that neither the CDCA Plan nor its NECO amendment which govern actions in the Plan area, are adequate to review the scale and intensity of land conversion proposed. See above under discussion of Land Use Impacts. 6-56 cont.

The BLM and Department of Energy (DOE) are preparing a Programmatic Environmental Impact Statement (PEIS) on solar energy development in six states in the western U.S. (Arizona, California, Colorado, New Mexico, Nevada, and Utah) (USDOE 2008). As part of the PEIS, the BLM and DOE identified 24 tracts of BLM-administered land for in-depth study for solar development, some of which may be found appropriate for designation as solar energy zones in the future:

> The Draft PEIS should be published in 2010; the appropriateness of siting solar energy plants on various land use designations may be revisited in the PEIS.
> Executive Order S-14-08 requires the Renewable Energy Action Team to establish a Desert Renewable Energy Conservation Plan (DRECP) for the Mojave and Colorado Desert regions. The Planning Agreement regarding the DRECP is entered into by the Energy Commission, California Department of Fish and Game, BLM, and U.S. Fish and Wildlife Service and is charged with identifying areas suitable for renewable energy project development and areas that will contribute to the conservation of sensitive species and natural communities. A draft report identifying these areas is expected to be published in the first quarter of 2010.

Thus the SA/DEIS acknowledges that there is a lack of guidance for land use decisions on the scale of this and other solar projects, and that planning is underway to provide such guidance, but is far from complete. In the absence of planning level guidance, approval of vast solar development and its inherent irreversible commitment of resources clearly violates FLPMA's mandate to provide sustainable resource protection. 6-57

CONCLUSION

For these reasons, the SA/DEIS violates NEPA, CEQA and potentially FLPMA. Accordingly, it should be revised and re-released. Also, the CDCA and NECO Plans should be revised prior to approval of the substantial public land conversion currently proposed by this and other ARRA projects. 6-58 With regard to the various project alternatives, a conjunctive public/private land alternative (conjunctive use) should be analyzed. 6-59 This conjunctive use alternative is potentially a very supportable project and was requested in environmental organizations' scoping comments as well as discussions with the applicant. It would constitute deletion of the west half of the project 6-60 and development of the east half of the project in combination with the East Mesa alternative lands. 6-60 cont.

Additionally, the alternative technology and distributed generation alternatives should be reinstated for full NEPA/CEQA consideration as viable project alternatives, both as stand-alone project alternatives and in concert with a conjunctive public/private land use alternative to enable project use of non-consolidated private lands. 6-61

In terms of specific local impacts, we would like to reiterate that we support development of the eastern half of this project, but cannot support the portions that interfere with important habitat in the western portions. We urge that the project be scaled back and appropriate avoidance, minimization and mitigation be applied as discussed in this document.

Thank you for the opportunity to comment on this important project.

Very truly yours,

Joan Taylor

Joan Taylor, Chair
California/Nevada Desert Energy Committee
Sierra Club

Comment Letter 7

GREENACTION
For Health & Environmental Justice

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RESOURCE AREA

June 14, 2010

Allison Shaffer, Project Manager
Palm Springs South Coast Field Office
Bureau of Land Management
1201 Bird Center Drive
Palm Springs, CA 92262

Comments of Greenaction for Health and Environmental Justice On Draft Environmental Impact Reports for the Genesis Solar Energy Project, Blythe Solar Power Project, and Palen Solar Power Project

Dear Ms. Shaffer,

Greenaction for Health and Environmental Justice contacts you today out of concern for the cultural, historical, and sacred geoglyphs and the spiritual well-being of the Native peoples in Blythe, California, and surrounding areas. These geoglyphs will be negatively affected by three proposed projects on BLM land: the Genesis Solar Energy Project (CACA 48880), the Blythe Solar Power Project (CACA 48811), and the Palen Solar Power Project (CACA 48810).

Greenaction works with community groups to protect health and promote environmental justice. Greenaction has members and constituents in Blythe and among the Native Nations in the region impacted by this proposed project. Greenaction's interest in the protection of the sites at issue in this proposed project is based on our long history and continued involvement with Native Nations and the interests of our members in the area. 7-01

Greenaction asks that the BLM reject these projects at the current proposed locations because of the unacceptable negative affects on the geoglyphs and the Native peoples. We urge you to fully consider the negative impacts these projects will have on the Native peoples of this region, including direct placement of solar panels on the geoglyphs and the construction of fences and other structures that will make the geoglyphs inaccessible. This can only be accomplished by collaborating with the Native peoples of the region, who are the ultimate authority on geoglyphs. 7-02

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The BLM must consider these impacts and must review the pending reports of John Kalish (BLM Field Manager), George Kline (archaeologist from the BLM Renewable Energy Coordinating Office in Palm Springs, CA), and local indigenous peoples and experts like Alfredo Figueroa before moving forward with these proposed projects. The company, and the BLM, should not be the final arbiter of what qualifies as a cultural, religious, and historical site, especially without adequate information about these sites: this power should reside with the people of the Native peoples and Nations of the region whose expertise far surpasses that of outsiders, as the Staff Assessment recognizes. *Staff Assessment* at C.3-2. 7-03

While Greenaction supports the goal of increasing the availability of solar power, Greenaction is opposed to the siting of these projects in a discriminatory manner on lands that have sacred, cultural, spiritual and archaeological significance. Thus, the Genesis Solar Energy Project, Blythe Solar Power Project, and Palen Solar Power Project simply cannot proceed. 7-04

Sincerely,

Bradley Angel

Bradley Angel
Executive Director

Comment Letter 8

"Ileene Anderson"

06/16/2010 08:36 PM

To <CAPSSolarBlythe@blm.gov>

cc <asolomon@energy.state.ca.us>, <brian_croft@fws.gov>, <khunting@dfg.ca.gov>, '"Lisa Belenky'"

bcc

Subject CBD comments on Chevron Energy Solutions/Solar Millennium (CESSM) Blythe Solar Power Plant (BSPP)

Hello Allison Shaffer,
Please find attached the Center for Biological Diversity's comments on the Draft Environmental Impact Statement for the Chevron Energy Solutions/Solar Millennium (CESSM) Blythe Solar Power Plant (BSPP) and Possible California Desert Conservation Area Plan Amendment. I will be sending a hardcopy to you along with a CD of the references immediately.
Please feel free to contact me with any questions.
Thanks for the opportunity to submit these important comments and to further engage in this process.
Respectfully submitted,
Ileene Anderson

ILeene Anderson
Biologist/Public Lands Desert Director
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"Our good fortune will only last as long as our natural resources" Will Rogers

Please consider the impact on the environment before printing this e-mail.

****Get the latest on the BP oil spill on the Center's new Gulf Disaster website, updated daily.****

CBD Blythe DEIS comments final 6-16-10.pdf

CENTER *for* BIOLOGICAL DIVERSITY

VIA EMAIL AND FEDERAL EXPRESS OVERNIGHT DELIVERY

June 16, 2010

Allison Shaffer, Project Manager,
Palm Springs South Coast Field Office
Bureau of Land Management
1201 Bird Center Drive
Palm Springs, California 92262
CAPSSolarBlythe@blm.gov

Re: Comments on the Draft Environmental Impact Statement/Staff Assessment for the Chevron Energy Solutions/Solar Millennium (CESSM) Blythe Solar Power Plant (BSPP) and Possible California Desert Conservation Area Plan Amendment

Dear Project Manager Shaffer:

These comments are submitted on behalf of the Center for Biological Diversity's 255,000 staff, members and on-line activists in California and throughout the western states, regarding the Draft Environmental Impact Statement/Staff Assessment (the "DEIS") for the proposed Chevron Energy Solutions/Solar Millennium (CESSM) Blythe Solar Power Plant (BSPP) and Possible California Desert Conservation Area Plan Amendment ("proposed project"), issued by the Bureau of Land Management ("BLM").[1]

The development of renewable energy is a critical component of efforts to reduce greenhouse gas emissions, avoid the worst consequences of global warming, and to assist California in meeting emission reductions set by AB 32 and Executive Orders S-03-05 and S-21-09. The Center for Biological Diversity (the "Center") strongly supports the development of renewable energy production, and the generation of electricity from solar power, in particular. However, like any project, proposed solar power projects should be thoughtfully planned to minimize impacts to the environment. In particular, renewable energy projects should avoid impacts to sensitive species and habitats, and should be sited in proximity to the areas of electricity end-use in order to reduce the need for extensive new transmission corridors and the efficiency loss associated with extended energy transmission. Only by maintaining the highest environmental standards with regard to local impacts, and effects on species and habitat, can renewable energy production be truly sustainable.

As proposed, the proposed project right of way includes over 9,000 acres and the proposed solar facility would cover approximately 7,030 acres (over 10 square miles) in the

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[1] The document released by the agencies is entitled "Staff Assessment and Draft Environmental Impact Statement BLYTHE SOLAR POWER PROJECT Application For Certification (09-AFC-6)".

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Colorado desert. The proposed project also includes new a new gas line, a gen-tie line, and a new substation. The DEIS for the proposed plan amendment and right-of-way application: fails to provide adequate identification and analysis of all of the significant impacts of the proposed project on the desert tortoise, the Mojave fringe-toed lizard, rare plants including Colorado desert microphyll woodlands, and other biological resources; fails to adequately address the significant 8-01 cumulative impacts of the project; and lacks consideration of a reasonable range of alternatives. 8-02 Of particular concern is the BLM's failure to include adequate information regarding the impacts to resources from the construction and operation of the proposed Colorado River substation and the gen-tie line in the DEIS. The substation is proposed to be constructed in occupied Mojave fringe-toed lizard habitat and no alternative sites for the substation are evaluated.[2] 8-03 In addition, BLM has failed to fully examine the impact of the proposed plan amendment to the California Desert Conservation Act Plan ("CDCA Plan") along with other similar proposed plan amendments and as a result the current piecemeal process may lead to the approval of industrial sites sprawling across the California Desert within habitat that should be protected to achieve the goals of the bioregional plan as a whole. 8-04 The DEIS also fails to consider potential alternative plan amendments that would protect the most sensitive lands from future development.[3] 8-05

Notably, the area of the proposed project is currently part of the evaluation being undertaken by the BLM for the solar PEIS for solar energy zones. Nonetheless, alternative siting alternatives and alternative technologies including distributed PV should have been fully considered in the DEIS, because they could significantly reduce the impacts to many species, 8-06 soils, and water resources in the Colorado desert. In addition, alternative plan amendments should have been discussed in the DEIS. The Center urges the BLM to revise the DEIS to adequately address these and other issues detailed below and re-circulate the DEIS or a supplemental DEIS for public comment. 8-06 cont.

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[2] The DEIS/SA provides some information on the impacts of the substation scattered throughout the document. *See, e.g.*, DEIS at C.2-63 fn. 7 ("Construction impacts are presented here but Southern California Edison would construct the 33-acre substation and would undertake mitigation for the biological resource impacts.") This information is clearly insufficient as noted in the Revised Staff Assessment ("Revised SA") for the Blythe Project CEC-700-2010-004 REV1, DOCKET NUMBER 09-AFC-6 dated June 4, 2010, which includes the following statement:

> Transmission System Engineering – The California Public Utilities Commission staff have asked the Energy Commission to include a permitting-level analysis of the proposed Colorado River substation expansion that is under their permitting authority. *Consultants are currently preparing this report and it will be included as part of the Supplemental Staff Assessment.*

pp. 12-13 (Executive Summary; emphasis added); *see also* pp. A-14 ("Transmission System Engineering – The California Public Utilities Commission staff have asked the energy commission staff to include a permitting-level analysis of the proposed Colorado River substation that is under their permitting authority. Consultants are currently preparing this report, and it will be included as part of the Supplemental Staff Assessment.").

[3] Notably, the Revised SA (which is not a federal document) includes additional information regarding potential plan amendments as part of a mitigation strategy. *See* Revised SA, Biological Resources Appendix B: Northern and Eastern Colorado Desert Coordinated Management Plan NECO Land Use Plan Amendments. The Revised SA states: "Biological Resources Appendix B: Appendix B, the NECO Land Use Plan Amendments, was inadvertently omitted from the SA/DEIS and is now included at the end of this section." Revised SA at C.2-6. Because this information was not included in the DEIS, it has not yet been properly noticed or circulated for public comment by the BLM.

In the sections that follow, the Center provides detailed comments on the ways in which the DEIS fails to adequately identify and analyze many of the impacts that could result from the proposed project, including but not limited to: impacts to biological resources, impacts to water resources, impacts to soils, direct and indirect impacts from the gen-tie line and substation, and cumulative impacts.

Because the project approval process includes a quasi-judicial process in the California Energy Commission, the Center hereby incorporates by reference all of the materials before the California Energy Commission regarding the approval of this project. BLM is a party to the CEC process, which is being conducted in concert with the BLM approval process, and BLM has access to all of the documents (which are also readily accessible on the internet), therefore, BLM should incorporate all of the documents and materials from that process into the administrative record for the BLM decision as well.

I. The BLM's Analysis of the Proposed Plan Amendment and Proposed Project Fail to Comply with FLPMA.

As part of FLPMA, Congress designated 25 million acres of southern California as the California Desert Conservation Area ("CDCA"). 43 U.S.C. § 1781(c). Congress declared in FLPMA that the CDCA is a rich and unique environment teeming with "historical, scenic, archaeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources." 43 U.S.C. § 1781(a)(2). Congress found that this desert and its resources are "extremely fragile, easily scarred, and slowly healed." *Id.* For the CDCA and other public lands, Congress mandated that the BLM "shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands." 43 U.S.C § 1732(b).

The sum total of the plan amendment to the CDCA plan is one sentence: "Permission granted to construct solar energy facility (proposed BSPP Project)." DEIS at A-6. The DEIS then lists the criteria for consideration of the plan amendment and right of way application and BLM's responses to each issue. DEIS at A-6 to A-9. While the Center appreciates BLM's effort in this regard (which were absent in other recent environmental documents prepared for large-scale solar projects), given the impact of the proposed project on other multiple uses of these public lands at the proposed site as well as other aspects of the bioregional planning, it appears that BLM may also need to amend other parts of the plan as well and should have looked at additional and/or different amendments as part of the alternatives analysis. Indeed it appears that BLM recognized the need for this additional information, the Revised SA (which is not a federal document) includes additional information regarding potential plan amendments as part of a mitigation strategy. *See* Revised SA, Biological Resources Appendix B: Northern and Eastern Colorado Desert Coordinated Management Plan NECO Land Use Plan Amendments. The Revised SA states: "Biological Resources Appendix B: Appendix B, the NECO Land Use Plan Amendments, *was inadvertently omitted from the SA/DEIS* and is now included at the end 8-07 of this section." Revised SA at C.2-6 (emphasis added). Unfortunately, it appears that this information was available but was not properly provided to the public for review and comment. The Revised SA discusses plan amendments that would increase protection for the desert tortoise by designation of a Tortoise Linkage Habitat Acquisition Area (TLHAA) and a Chuckwalla Bench Acquisition Area (CBA) where uses would be limited to protect key habitat values. The Revised SA also proposes to increase protections within the Chuckwalla DWMA by reducing the disturbance cap and developing an "activity plan" for OHV use in desert washes. While it appears that such an "activity plan" would be focused on increasing protections for desert tortoise and habitat, there is no explanation or analysis of why or how the current land use designations and route designations are not providing the needed protection. 8-07 cont.

The Center has repeatedly sought stronger protections for desert tortoise and tortoise critical habitat in the DWMAs within the CDCA as a whole and particularly within the NECO planning area. Despite the fact that desert tortoise populations in the NECO DWMAs continue to decline, the BLM's NECO plan amendment adopted ORV "open wash zones" on 218,711 acres (25%) in the Chemehuevi DWMA and 352,633 acres (43%) in the Chuckwalla DWMA, and in an additional 1,042 square miles (666,880 acres) of desert tortoise habitat outside of both the DWMAs and critical habitat. As a result the NECO plan currently allows virtually unlimited ORV use in large parts of the DWMAs and allows significant damage to desert tortoises and their critical habitat to occur. The Center strongly supports greater protections for the desert tortoise and its habitat and the first step should be removing all "open wash zones" from both all critical habitat and DWMAs in the planning area. The BLM should also provide ongoing monitoring of the DWMAs and reporting to ensure that all route closures in the DWMAs are implemented so that any new protective measures have the intended effect. In contrast, a plan amendment such as that suggested in Revised SA that would simply require the BLM to prepare a new "activity plan" appears to be more form than substance. 8-08

Unfortunately, none of the plan amendment proposals to provide additional protections for species on public lands were included in the DEIS and, moreover, the DEIS confusingly appears to actually defer consideration of any specific proposed plan amendments until the FEIS. *See* DEIS at 2 ("The Supplemental Staff Assessment (SSA)/FEIS will include for BLM a Proposed Land Use Plan Amendment (Proposed PA). The NOA will initiate a 30-day period in which to protest the Proposed PA to the Director of the BLM."). It is possible that BLM intended this statement in encompass the potential for additional plan amendments to protect resources as part of the mitigation measures for this project. However, BLM cannot properly defer the identification of the proposed plan amendments and analysis of the impacts of the proposed plan amendment until the Final EIS stage.

Overall BLM has still failed to take a comprehensive look at the proposed plan amendment for the ROW to determine: 1) whether industrial scale projects are appropriate for any of the public lands in this area; 2) if so, how much of the public lands are suitable for such industrial uses given the need to balance other management goals including preservation of habitat and water resources; and 3) the location of the public lands suitable for such uses. The BLM has also failed to explain how this proposed project would interface with the Solar PEIS process that is already under way and was intended to consider these questions. The Center remains concerned that the result of the current process is a piecemeal approach to project review 8-09 with site-specific approvals made before planning is completed which threatens to undermine the "bioregional" approach in the CDCA Plan as a whole as well as violate the fundamental planning principles of FLPMA. 8-09 cont.

A. The DEIS Fails to Adequately Address the Plan Amendment in the Context of the CDCA Plan.

Unfortunately, the DEIS fails to adequately consider the impacts of the proposed project and plan amendment and reasonable alternatives in the context of FLPMA and the CDCA Plan. FLPMA requires that in developing and revising land use plans, the BLM consider many factors and "use a systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other sciences . . . consider the relative scarcity of the values involved and the availability of alternative means (including recycling) and sites for realization of those values." 43 U.S.C. § 1712(c). As stated clearly in the CDCA Plan: 8-10

> The goal of the Plan is to provide for the use of the public lands, and resources of the California Desert Conservation Area, including economic, educational, scientific, and recreational uses, in a manner which enhances wherever possible—and which does not diminish, on balance—the environmental, cultural, and aesthetic values of the Desert and its productivity.

CDCA Plan at 5-6. The CDCA Plan also provides several overarching management principles:

> MANAGEMENT PRINCIPLES
>
> The management principles contained in the law (FLPMA)—*multiple use, sustained yield, and the maintenance of environmental quality*—are not simple guides. Resolution of conflicts in the California Desert Plan requires innovative management approaches for everything from wilderness and wildlife to grazing and mineral development. These approaches include:
>
> —Seeking simplicity for management direction and public understanding, avoiding complication and confusing in detail which would make the Plan in comprehensive and unworkable. 8-11
>
> —Development of decision-making processes using appropriate guidelines and criteria which provide for public review and understanding. These processes are designed to help in allowing for the use of desert lands and resources while preventing their undue degradation or impairment.
>
> *—Responding to national priority needs for resource use and development, both today and in the future, including such paramount priorities as energy development and transmission, without compromising the basic desert resources of soil, air, water, and vegetation, or public values such as wildlife, cultural resources, or magnificent desert scenery. This means, in the face of unknowns, erring on the side of conservation in order not to risk today what we cannot replace tomorrow.*

> —*Recognizing that the natural patterns of the California Desert, its geological and biological systems, are the basis for planning*, and that human use patterns, from freeways to fence lines, define its boundaries. Only in this way can the public resources can be understood and protected by the Plan that can be publicly comprehended, accepted, and followed.

8-11 cont.

CDCA Plan 1980 at 6 (first emphasis in original, second emphasis added).

The CDCA Plan anticipated that there would be multiple plan amendments over the life of the plan and provides specific requirements for analysis of Plan amendments. Those requirements include determining "if alternative locations within the CDCA are available which would meet the applicant's needs without requiring a change in the Plan's classification, or an amendment to any Plan element" and evaluating "the effect of the proposed amendment on BLM management's desert-wide obligation to achieve and maintain a balance between resource use and resource protection." CDCA Plan at 121. Thus, BLM was required to analyze in the DEIS whether alternative locations were available that would not require a plan amendment, and how the proposed amendment would affect desert-wide resource protection—BLM mentions the former issue but fails to address the latter issue.

The CDCA Plan includes the Energy Production and Utility Corridors Element which is focused primarily on utility corridors with brief discussion of powerplant siting. Even in 1980 the CDCA Plan contemplated that alternative energy projects would likely be developed in the future but did not expressly provide planning direction for solar energy production. Nonetheless, the overarching principles expressed in the Decision Criteria are also applicable to the proposed project here including minimizing the number of separate rights-of-way, providing alternatives for consideration during the processing of applications, and "avoid[ing] sensitive resources wherever possible." CDCA Plan at 93. Nothing in the DEIS shows that BLM considered the landscape level issues and management objectives or alternatives to the proposed plan amendment *in the DEIS*. 8-12

In addition, BLM should have considered the impacts to existing land use plans for these public lands across several scales including, for example: in the western Imperial Valley; in the Imperial Valley as a whole; in the Salton Trough; and in the CDCA as a whole. 8-13

B. The DEIS Fails to Adequately Address Impacts to Multiple Use Class L Lands and Loss of Multiple Use in Favor of a Single Use for Industrial Purposes.

As FLPMA declares, public lands are to be managed for multiple uses "in a manner that will protect the quality of the scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values." 43 U.S.C.§ 1701(a)(7) & (8). The CDCA Plan as amended provides for four distinct multiple use classes based on the sensitivity of resources in each area. The proposed project site is in MUC class L lands. DEIS at C.13-4. Under the CDCA Plan, Multiple-use Class L (Limited Use) "protects sensitive, natural, scenic, ecological, and cultural resources values. Public lands designated as Class L are managed to provide for generally *lower-intensity, carefully controlled multiple use of resources, while* 8-14 *ensuring that sensitive values are not significantly diminished.*" CDCA Plan at 13 (emphasis added). The proposed project is a high-intensity, single use of resources that will displace all other uses and that will significantly diminish (indeed, completely destroy) of over 7,000 acres of habitat including nearly 3 miles of rare Colorado desert microphyll woodlands. The DEIS does consider alternative configurations that would avoid impacts to some resources but still fails to consider how the loss of this rare habitat type along with the loss of a large area of habitat will affect the biological resources of this area. Moreover, BLM does not address how the loss of multiple uses in such a large area might affect other nearby public lands in the CDCA such as creating greater pressures on those land for the remaining multiple uses. 8-14 cont.

For example, to the extent that the proposal would require changes in the route network resulting in several routes which would need to be moved—those changes to the route network are simply not addressed in the DEIS (nor are the likely direct, indirect and cumulative impacts of changing those route designations adequately identified or analyzed, as discussed in detail below). Any changes to routes would require BLM to amend the route designations in the area because these routes are part of a network that was adopted through a plan amendment. When BLM does consider these issues, as it must, in a revised or supplemental DEIS, a range of alternatives must be considered in addition to the fact that such changes will undoubtedly change use of the previously existing nearby routes, most likely causing increased use on other nearby routes. Even if BLM attempts to simply reroute along the fenceline for the proposed project a plan amendment would be required and BLM must then consider that new unauthorized routes to provide connections to the other routes, and/or entirely new unauthorized routes may be created by off-road vehicle users *to avoid the industrial site entirely*. There is no evidence that recreational off-road vehicle users will be content to drive for miles along a fence adjoining an industrial site rather than striking off cross-country to connect with more scenic routes. Past experience shows that the latter is quite understandably a much more likely outcome and BLM should recognize this in analyzing the impacts of this project on the existing route network and any proposal to amend that network. 8-15

C. Fails to Adequately Address Other Ongoing Planning Efforts

The DEIS fails to adequately address the proposed project in the context of other connected projects (including multiple renewable energy projects, substations and additional transmission lines) and the ongoing PEIS planning process for solar development in six western states undertaken by BLM and DOE which does not identify this area as a proposed solar energy study area[4]. Direct, indirect and cumulative impacts of the proposed project in conjunction with others may lead to sprawl development in the area and undermine the *planning* for renewable energy industrial zones that BLM has undertaken. 8-16

Of particular concern is the failure of the DEIS to analyze the impacts of the gen-tie and the Colorado River substation in Mojave fringe-toed lizard habitat and the BLM's failure to explore alternatives that would minimize impacts. The BLM cannot lawfully piecemeal this project approval. Moreover, the BLM has failed to explain how this site specific approval would interface with, or alternatively undermine, the solar programmatic planning by federal agencies for the western states. This critical issue regarding planning on public lands is not adequately addressed in the DEIS which only mentions the PEIS process briefly (DEIS at B.2-19), and then includes the PEIS as a foreseeable future project with no explanation (DEIS at B.3-13). The BLM does not analyze how the PEIS could be affected by the approval of this and other projects in the area and does not address how the piecemeal analysis of the substation and gen-tie line may undermine the planning for a solar zone in this area. Such analysis *after the fact* is not consistent with the planning requirements of FLPMA or, indeed, any rational land use planning principles. 8-16 cont.

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[4] http://solareis.anl.gov/documents/maps/studyareas/Solar_Study_Area_CA_Ltt_7-09.pdf

D. BLM Failed to Inventory the Resources of these Public Lands Before Making a Decision to Allow Destruction of those Resources

FLPMA states that "[t]he Secretary shall prepare and maintain on a continuing basis an inventory of all public lands and their resource and other values," and this "[t]his inventory shall be kept current so as to reflect changes in conditions and to identify new and emerging resource and other values." 43 U.S.C. § 1711(a). FLPMA also requires that this inventory form the basis of the land use planning process. 43 U.S.C. § 1701(a)(2). *See Center for Biological Diversity v. Bureau of Land Management*, 422 F.Supp.2d 1115, 1166-67 (N.D. Cal. 2006) (discussing need for BLM to take into account known resources in making management decisions); *ONDA v. Rasmussen,* 451 F.Supp. 2d 1202, 1212-13 (D. Or. 2006) (finding that BLM did not take a hard look under NEPA by relying on outdated inventories and such reliance was inconsistent with BLM's statutory obligations to engage in a continuing inventory under FLPMA). It is clear that BLM should not approve a management plan amendment based on outdated and inadequate inventories of affected resources on public lands.

8-17

As detailed below in the NEPA sections, here BLM has failed to compile an adequate inventory of the resources of the public lands that could be affected by the proposed project *before* preparing the DEIS (including, e.g., rare plant surveys including late-summer/early-fall flowering plants, Mojave fringe-toed lizard, and other biological resources) which is necessary in order to adequately assess the impacts to resources of these public lands in light of the proposed plan amendment and BLM has also failed to adequately analyze impacts on known resources. Indeed, the DEIS states that surveys are ongoing after the DEIS was issued See DEIS at C.2-2 ("Follow-up spring and fall 2010 special-status plant surveys will be performed for 15 plant species within the Project Disturbance Area and along the proposed transmission line alignment.) Similarly, the DEIS states that the agencies were still waiting for a Army Corps of Engineers jurisdictional determination in order to analyze compliance with the Clean Water Act. *See* DEIS at C.9-2. Therefore, it appears that a revised DEIS or supplemental DEIS must be prepared to include the new information including new survey data about the resources of the site and potential impacts of the project on resources of our public land and water, and that document must be circulated for public review and comment.

E. The DEIS Fails to Provide Adequate Information to Ensure that the BLM will Prevent Unnecessary and Undue Degradation of Public lands

FLPMA requires BLM to "take any action necessary to prevent unnecessary or undue degradation of the lands" and "minimize adverse impacts on the natural, environmental, scientific, cultural, and other resources and values (including fish and wildlife habitat) of the 8-18 public lands involved." 43 U.S.C. §§ 1732(b), 1732(d)(2)(a). Without adequate information and analysis of the current status of the resources of these public lands, BLM cannot fulfill its duty to prevent unnecessary or undue degradation of the public lands and resources. Thus, the failure to provide an adequate current inventory of resources and environmental review undermines BLM's ability to protect and manage these lands in accordance with the statutory directive. 8-18 cont.

BLM has failed to properly identify and analyze impacts to the resources including the impacts from all of the project components. As detailed below, the BLM's failure in this regard violates the most basic requirements of NEPA and in addition undermines the BLM's ability to ensure that the proposal does not cause unnecessary and undue degradation of public lands. *See Island Mountain Protectors*, 144 IBLA 168, 202 (1998) (holding that "[t]o the extent BLM failed to meet its obligations under NEPA, it also failed to protect public lands from unnecessary or undue degradation."); *National Wildlife Federation*, 140 IBLA 85, 101 (1997) (holding that "BLM violated FLPMA, because it failed to engage in any reasoned or informed decisionmaking process" or show that it had "balanced competing resource values").

II. The DEIS Fails to Comply with NEPA.

8-19

NEPA is the "basic charter for protection of the environment." 40 C.F.R. § 1500.1(a). In NEPA, Congress declared a national policy of "creat[ing] and maintain[ing] conditions under which man and nature can exist in productive harmony." *Or. Natural Desert Ass'n v. Bureau of Land Mgmt.*, 531 F.3d 1114, 1120 (9th Cir. 2008) (quoting 42 U.S.C. § 4331(a)). NEPA is intended to "ensure that [federal agencies] ... will have detailed information concerning significant environmental impacts" and "guarantee[] that the relevant information will be made available to the larger [public] audience." *Blue Mountains Biodiversity Project v. Blackwood,* 161 F.3d 1208, 1212 (9th Cir. 1998).

Under NEPA, before a federal agency takes a "'major [f]ederal action[] significantly affecting the quality' of the environment," the agency must prepare an environmental impact statement (EIS). *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1067 (9th Cir. 2002) (quoting 43 U.S.C. § 4332(2)(C)). "An EIS is a thorough analysis of the potential environmental impact that 'provide[s] full and fair discussion of significant environmental impacts and ... inform[s] decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.'" *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 993 (9th Cir. 2004) (citing 40 C.F.R. § 1502.1). An EIS is NEPA's "chief tool" and is "designed as an 'action-forcing device to [e]nsure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government.'" *Or. Natural Desert Ass'n,* 531 F.3d at 1121 (quoting 40 C.F.R. § 1502.1).

An EIS must identify and analyze the direct, indirect, and cumulative effects of the proposed action. This requires more than "general statements about possible effects and some risk" or simply conclusory statements regarding the impacts of a project. *Klamath Siskiyou Wildlands Center v. BLM,* 387 F.3d 989, 995 (9th Cir. 2004) (citation omitted); *Oregon Natural Resources Council v. BLM,* 470 F.3d 818, 822-23 (9th Cir. 2006). Conclusory statements alone "do not equip a decisionmaker to make an informed decision about alternative courses of action or a court to review the Secretary's reasoning." *NRDC v. Hodel*, 865 F.2d 288, 298 (D.C. Cir. 1988).

NEPA also requires BLM to ensure the scientific integrity and accuracy of the information used in its decision-making. 40 CFR § 1502.24. The regulations specify that the agency "must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential." 40 C.F.R. § 1500.1(b). Where complete data is unavailable, the EIS also must contain an analysis of the worst-case scenario resulting from the proposed project. *Friends of Endangered Species v. Jantzen*, 760 F.3d 976, 988 (9th Cir. 1985) (NEPA requires a worst case analysis when information relevant to impacts is essential and not known and the costs of obtaining the information are exorbitant or the means of obtaining it are not known) *citing Save our Ecosystems v. Clark*, 747 F.2d 1240, 1243 (9th Cir. 1984); 40 C.F.R. § 1502.22. 8-19 cont.

A. Purpose And Need and Project Description are Too Narrowly Construed and Unlawfully Segment the Analysis

1. Purpose and Need:

Agencies cannot narrow the purpose and need statement to fit only the proposed project and then shape their findings to approve that project without a "hard look" at the environmental consequences. To do so would allow an agency to circumvent environmental laws by simply "going-through-the-motions." It is well established that NEPA review cannot be "used to rationalize or justify decisions already made." 40 C.F.R. § 1502.5; *Metcalf v. Daley*, 214 F.3d 1135, 1141-42 (9th Cir. 2000) ("the comprehensive 'hard look' mandated by Congress and required by the statute must be timely, and it must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made.") As Ninth Circuit noted an "agency cannot define its objectives in unreasonably narrow terms." *City of Carmel-by-the-Sea v. U.S. Dept. of Transportation*, 123 F.3d 1142, 1155 (9th Cir. 1997); *Muckleshot Indian Tribe v. U.S. Forest Service*, 177 F. 3d 900, 812 (9th Cir. 1999). The statement of purpose and alternatives are closely linked since "the stated goal of a project necessarily dictates the range of 'reasonable' alternatives." *City of Carmel*, 123 F.3d at 1155. The Ninth Circuit recently reaffirmed this point in *National Parks Conservation Assn v. BLM*, 586 F.3d 735, 746-48 (9th Cir. 2009) (holding that "[a]s a result of [an] unreasonably narrow purpose and need statement, the BLM necessarily considered an unreasonably narrow range of alternatives" in violation of NEPA). 8-20

The purpose behind the requirement that the purpose and need statement not be unreasonably narrow, and NEPA in general is, in large part, to "guarantee[ ] that the relevant information will be made available to the larger audience that may also play a role in both the decision-making process and the implementation of that decision." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). The agency cannot camouflage its analysis or avoid robust public input, because "the very purpose of a draft and the ensuing comment period is to elicit suggestions and criticisms to enhance the proposed project." *City of Carmel-by-the-Sea*, 123 F.3d at 1156. The agency cannot circumvent relevant public input by narrowing the purpose and need so that no alternatives can be meaningfully explored or by failing to review a reasonable range of alternatives. 8-20 cont.

The BLM's purpose and need for the Blythe project is "to respond to Palo Verde Solar I's application under Title V of FLPMA (43 U.S.C. 1761) for a ROW grant to construct, operate, and decommission a solar thermal facility on public lands in compliance with FLPMA, BLM ROW regulations, and other Federal applicable laws", and also states that the "BLM authorities include:

- Executive order 13212, dated May 18, 2001, which mandates that agencies act expediently and in a manner consistent with applicable laws to increase the "production and transmission of energy in a safe and environmentally sound manner."
- The EPAct, which requires the Department of the Interior (BLM's parent agency) to approve at least 10,000 MW of renewable energy on public lands by 2015.
- Secretarial Order 3285, dated March 11, 2009, which "establishes the development of renewable energy as a priority for the Department of the Interior."

DEIS at A-12. The DEIS notes that an amendment to the CDCA Plan is needed in order to approve the project but does not clearly identify the plan amendment as a part of the project being evaluated. Rather, the DEIS states: "The BLM will decide whether to approve, approve with modification, or deny issuance of a ROW ... The BLM's actions will also include consideration of amending the CDCA Plan concurrently." DEIS at A-11. BLM's purpose and need is very narrowly construed to the proposed project itself and an amendment to the Plan *for the project only*. The purpose and need provided in the DEIS is impermissibly narrow under NEPA for several reasons, most importantly because it foreclosed meaningful alternatives review in the DEIS. Because the purpose and need and the alternatives analysis are at the "heart" of NEPA review and affect nearly all other aspects of the EIS, on this basis and others, BLM must revise and re-circulate the DEIS. 8-21

The DOE purpose and need statement provides:

> The Applicant has applied to the Department of Energy (DOE) for a loan guarantee under Title XVII of the Energy Policy Act of 2005 (EPAct 05), as amended by Section 406 of the American Recovery and Reinvestment Act of 2009, P.L. 111-5 (the —Recovery Act). DOE is a cooperating agency on this EIS pursuant to an MOU between DOE and BLM signed in January 2010. The purpose and need for action by DOE is to comply with its mandate under EPAct by selecting eligible projects that meet the goals of the Act. 8-22

DEIS at A-12.

In discussing the cumulative scenario, the DOE loan guarantee program is also described as one of the incentive programs for funding renewable energy projects:

> Example[s] of incentives for developers to propose renewable energy projects on private and public lands in California, Nevada and Arizona, include the following:
>
> • U.S. Treasury Department's Payments for Specified Energy Property in Lieu of Tax Credits under §1603 of the American Recovery and Reinvestment Act of 2009 (Public Law 1115) - Offers a grant (in lieu of investment tax credit) to receive funding for 30% of their total capital cost at such time as a project achieves commercial operation (currently applies to projects that begin construction by December 31, 2010 and begin commercial operation before January 1, 2017). 8-22 cont.
>
> • U.S. Department of Energy (DOE) Loan Guarantee Program pursuant to §1703 of Title XVII of the Energy Policy Act of 2005 - Offers a loan guarantee that is also a low interest loan to finance up to 80% of the capital cost at an interest rate much lower than conventional financing. The lower interest rate can reduce the cost of financing and the gross project cost on the order of several hundred million dollars over the life of the project, depending on the capital cost of the project.

DEIS at B.3-2.

The Center is well aware that deadlines for funding, particularly for the American Recovery and Reinvestment Act ("ARRA") funds, have driven the pace of the environmental review for this project and others and, while such funding mechanisms are important, deadlines cannot be used as an excuse for rushed and inadequate NEPA review. The BLM and DOE must be concerned with the adequate NEPA review and even if the agencies can properly have an objective of *timely* approval of projects they cannot properly have as purpose and need of the project a *rushed* inadequate environmental impact review.

Moreover, in its discussion of the need for renewable energy production the DEIS fails to address risks associated with global climate change in context of including both the need for climate change mitigation strategies (e.g., reducing greenhouse gas emissions) and the need for climate change adaptation strategies (e.g., conserving intact wild lands and the corridors that connect them). All climate change adaptation strategies underline the importance of protecting intact wild lands and associated wildlife corridors as a priority adaptation strategy measure.

The habitat fragmentation, loss of connectivity for terrestrial wildlife, and introduction of predators and invasive weed species associated with the proposed project in the proposed location may run contrary to an effective climate change adaptation strategy. Siting the proposed project in the proposed location impacting major washes and fragile desert resources could undermine a meaningful climate change adaptation strategy with a poorly executed climate change mitigation strategy. Moreover, the project itself will emit greenhouse gases and the DEIS contains no discussion of ways to avoid, minimize or off set these emissions although such mitigation is clearly feasible and other technologies have far less or no GHG emissions during operations are also likely to have fewer emissions when calculated on a lifecycle basis. The way to maintain healthy, vibrant ecosystems is not to fragment them and reduce their biodiversity. 8-23

B. The DEIS Does Not Adequately Describe Environmental Baseline

BLM is required to "describe the environment of the areas to be affected or created by the alternatives under consideration." 40 CFR § 1502.15. The establishment of the baseline conditions of the affected environment is a practical requirement of the NEPA process. In *Half Moon Bay Fisherman's Marketing Ass'n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988), the Ninth Circuit states that "without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA." Similarly, without a clear understanding of the current status of these public lands BLM cannot make a rational decision regarding proposed project. *See Center for Biological Diversity v. U.S. Bureau of Land Management, et al.*, 422 F. Supp. 2d 1115, 1166-68 (N.D. Cal. 2006) (holding that it was arbitrary and capricious for BLM to approve a project based on outdated and inaccurate information regarding biological resources found on public lands). 8-24

The DEIS fails to provide adequate baseline information and description of the environmental setting in many areas including in particular the status of rare plants, animals and communities.

The baseline descriptions in the DEIS are inadequate particularly for the areas where surveys are ongoing. As discussed below, because of the deficiencies of the baseline data for the proposed project area, the DEIS fails to adequately describe the environmental baseline. Many of the rare and common but essential species and habitats have incomplete and/or vague on-site descriptions that make determining the proposed project's impacts difficult at best. Some of the rare species/habitats baseline conditions are totally absent, therefore no impact assessment is provided either. A supplemental document is required to fully identify the baseline conditions of the site, and that baseline needs to be used to evaluate the impacts of the proposed project.

C. Failure to Identify and Analyze Direct and Indirect Impacts to Biological Resources

The EIS fails to adequately analyze the direct, indirect, and cumulative impacts of the proposed project on the environment. The Ninth Circuit has made clear that NEPA requires agencies to take a "hard look" at the effects of proposed actions; a cursory review of environmental impacts will not stand. *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1150-52, 1154 (9th Cir. 1998). Where the BLM has incomplete or insufficient information, NEPA requires the agency to do the necessary work to obtain it where possible. 40 C.F.R. §1502.22; *see National Parks & Conservation Ass'n v. Babbitt,* 241 F.3d 722, 733 (9th Cir. 2001) ("lack of knowledge does not excuse the preparation of an EIS; rather it requires [the agency] to do the necessary work to obtain it.") 8-25

Moreover, BLM must look at reasonable mitigation measures to avoid impacts in the DEIS but failed to do so here. Even in those cases where the extent of impacts may be somewhat uncertain due to the complexity of the issues, BLM is not relieved of its responsibility under NEPA to discuss mitigation of reasonably likely impacts at the outset. Even if the discussion may of necessity be tentative or contingent, NEPA requires that the BLM provide some information regarding whether significant impacts could be avoided. *South Fork Band Council of Western Shoshone v. DOI* , 588 F.3d 718 , 727 (9th Cir. 2009).

The lack of comprehensive surveys is particularly problematic. Failure to conduct sufficient surveys prior to construction of the project also effectively eliminates the most important function of surveys - using the information from the surveys to minimize harm caused by the project and reduce the need for mitigation. Often efforts to mitigate harm are far less effective than preventing the harm in the first place. In addition, without understanding the scope of harm before it occurs, it is difficult to quantify an appropriate amount and type of mitigation. 8-25 cont.

The DEIS recognizes (at pg. ES-15) that based on the information provided in the biological resources analysis it is undetermined if the project proposal and mitigations complies with all of the laws, ordinances, regulations, and standards (LORS). Additionally it is undetermined if impacts could be mitigated. For this reason alone, a supplemental or revised DEIS needs to be provided that determines if LORS are complied with and the status of mitigation.

1. Desert Tortoise

The desert tortoise has lived in the western deserts for tens of thousands of years. In the 1970's their populations were noted to decline. Subsequently, the species was listed as threatened by the State of California in 1989 and by the U.S. Fish and Wildlife Service in 1990, which then issued a Recovery Plan for the tortoise in 1994. The U.S. Fish and Wildlife Service is in the process of updating the Recovery Plan, and a Draft Updated Recovery Plan was issued in 2008, however it has not been finalized. Current data indicate a continued decline across the range of the listed species[5] despite its protected status and recovery actions.

The original and draft Updated Recovery Plans both recognize uniqueness in desert tortoise populations in California. This particular subpopulation of tortoise at the proposed project site are part of the Eastern Colorado Recovery unit[6]. Recent population genetics studies[7] have further confirmed 1994 Recovery Plan conclusions the Eastern Colorado Recovery unit was one of the most genetically unique recovery units. While the proposed project site may have low desert tortoise densities, this particular recovery unit has also been documented to have the second highest declines in population over the last two years – 37% decline [8]. The DEIS fails to identify and consider the localized impact to this recovery unit that is already in steep decline. 8-26

While Bio-10 requires a Desert Tortoise Relocation/Translocation Plan (DEIS at pg. C.2-130), no desert tortoise relocation/translocation plan was included in the DEIS. Recent desert tortoise translocations have resulted in significant short-term mortality up to 45%[9] and unknown long-term survivorship. It is imperative to have this important plan available in the revised DEIS.

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[5] USFWS 2009

[6] USFWS 1994

[7] Murphy et al. 2007

[8] USFWS 2009.

[9] Gowan and Berry 2010.

Mechanisms need to be included to assure that any and all mitigation acquisitions will be conserved in perpetuity for the conservation of the desert tortoise. If those acquisitions are within existing Desert Wildlife Management Areas (DWMAs), higher levels of protection than are currently in place for DWMAs need to be put in place. NEPA mandates consideration of the relevant environmental factors and environmental review of "[b]oth *short- and long-term* effects" in order to determine the significance of the project's impacts. 40 C.F.R. § 1508.27(a) (emphasis added). BLM has clearly failed to do so in this instance with respect to the impact to the desert tortoise. If tortoises are relocated, then the relocation areas need to be secured for tortoise conservation, to preclude moving the animals subsequently if additional projects are on the relocation site. 8-26 cont.

2. *Desert Bighorn Sheep*

Comprehensive surveys for desert bighorn in the McCoy mountains has not been completed and therefore impacts assessment from of the proposed project can not be done. Without this basic information about the status of the bighorn population in the adjacent areas and their potential use of the alluvial fan for seasonal browsing where the proposed project site is located, it is impossible to assess the extent of the impacts to the bighorn population in this area from the proposed project. Without site-specific data on the details of habitat use patterns of the bighorn in the area, the DEIS cannot properly assess the importance of the alluvial fan and wash habitat to the bighorn population or the impact of its loss on the population. Additional field study needs to be conducted by a knowledgeable researcher in the Mc Coy Mountains and on the proposed solar site. Absent any real information in the field, any suggested mitigation or perceived impacts are pure conjecture. 8-27

3. *Rare and Special Status Plants*

While five different species of rare plants are noted to occur on the project site (DEIS at C.2-2), only two of the species (Las Animas colubrine and Harwood's milkvetch) were analyzed for impacts. As noted in the DEIS (at C.2-2), additional surveys for rare plants are being done in 2010, although the results of those surveys are not available. Absent the basic data on on-site resources, impact analysis is impossible, as is appropriate avoidance, minimization and mitigation strategies. Clearly a supplemental DEIS is required to present these missing data. 8-28

4. *Migratory and Other Birds and Burrowing Owls*

Birds

The proposed project area is rich in bird resources. The Palo Verde Valley, which is 8-29 directly adjacent to the site, is noted as an Important Bird Area[10]. Birds migrate up and down the Colorado River Valley, undoubtedly using the projects site and the microphyll woodland on site. The DEIS fails to evaluate the impact to this migratory pathway from the proposed project. 8-29 cont.

The DEIS fails to address the fatalities that have been documented to occur from birds running into mirrors[11]. Adjacent to the proposed project site are agricultural fields, which also attract birds. The DEIS does not quantify the number of birds (rare, migratory or otherwise) that use/traverse the project site from the avian point count surveys, nor does it evaluate the impact to birds. McCrary[12] estimated 1.7 birds deaths per week on a 32 ha site with mirrors and a power tower configuration. The proposed project site is approximately 2845 ha (over 90 times larger). While it is a solar trough technology, other researchers have evaluated impacts to avian species from reflective surfaces and powerlines[13] and has a different kind of mirror and power plant configuration. The revised DEIS needs to analyze likely impacts to birds from the proposed project mirror configuration. The failure to provide the baseline data from which to make any impact assessment violates NEPA. This failure to analyze impacts is not only a NEPA violation, but for migratory birds, may also lead to a violation of the Migratory Bird Treaty Act, 16 U.S.C. §§ 703 -711, because migratory birds may be "taken" if the proposed project is constructed. Bio-15 requires an Avian Protection Plan which is proposed to "provide the information needed to determine if operation of the Project posed a collision risk for birds, and would provide adaptive management measures to mitigate those impacts to less than significant levels" (DEIS at pg. C.2-77). However, the Avian Protection Plan is not available to provide an assessment of impacts to migratory birds.

Additionally, while evaporation ponds noted as being part of the project in the DEIS and "are discussed in the Soil and Water Resources section of this document" (DEIS at pg. C.13-17) actually we could not locate additional discussion of them in the DEIS. Open water of any kind in the desert is an attractant to wildlife, and this very important issue needs to be addressed in the supplemental DEIS particularly with regards to the number and size of the basins, attraction to animals including birds (including ravens), and strategies to keep them from attracting animals. 8-30

Burrowing Owls

The DEIS notes that "One burrowing owl was observed within the Project Disturbance Area at an active burrow during Phase II burrowing owl surveys in March 2009. In total, 92 burrows with burrowing owl sign were observed during 2009 Phase II and III surveys. An additional burrow with sign was observed near the transmission line Disturbance Area during fall 2009 surveys (Solar Millennium 2009b, Western Burrowing Owl Technical Report)" (DEIS at C.2-32). Preliminary results from the 2006-7 statewide census identified that the Sonoran desert harbors Western burrowing owls.[14] However, the DEIS fails to evaluate the potential impact of the proposed project on this regional distribution of owls. 8-31

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[10] Audubon IBA http://ca.audubon.org/maps/pdf/Lower_Colorado_River_Valley.pdf

[11] McCrary 1986

[12] Ibid

[13] Klem 1990, Erickson et al. 2005

[14] IBP 2008

While "passive relocation" does minimize immediate direct take of burrowing owls, ultimately the burrowing owls' available habitat is reduced, and "relocated" birds are forced to compete for resources with other resident burrowing owls and may move into less suitable habitat, ultimately resulting in "take". While Bio-18 requires a Burrowing Owl mitigation plan, that plan is not provided. Additionally, the requirements of the plan do not explicitly include long-term monitoring of passively relocated birds in order to evaluate survivorship of passively relocated birds. 8-31 cont.

Golden Eagle

While no golden eagles were documented to use proposed project site as a foraging the results of the surveys in the McCoy Mountains were not available to the EIS. The proposed mitigation measure BIO-12 proposes to reduce impacts to the species to less than significant levels, however the DEIS fails to present exactly how it will mitigate the loss of a substantial amount of foraging habitat for the golden eagle. The fact still remains that significant amounts of foraging habitat will decrease carrying capacity of the landscape and could result in a potential loss of habitat needed to support a nesting pair, which would impact reproductive capacity.

Scientific literature on this subject is clear - the presence of humans detected by a raptor in its nesting or hunting habitat can be a significant habitat-altering disturbance even if the human is far from an active nest[15]. Regardless of distance, a straight-line view of disturbance affects raptors, and an effective approach to mitigate impacts of disturbance for golden eagles involves calculation of viewsheds using a three-dimensional GIS tool and development of buffers based on the modeling[16]. Golden eagles have also been documented to avoid industrialized areas that are developed in their territory.[17] Additionally, the DEIS does not actually clearly analyze the impacts to and mitigations for the golden eagle under the Bald Eagle and Golden Eagle Protection Act, which prohibits, except under certain specified conditions, the take, possession, and commerce of such birds. 8-32

5. Badger and Desert Kit Foxes

Badgers and desert kit foxes were identified to occur throughout the project area (DEIS C.2-152. Literature on the highly territorial badger indicates that badger home territories range from 340 to 1,230 hectares[18]. Therefore, the proposed project could displace *at least* one badger territory. While surveys prior to construction are clearly essential, even passive relocation of badgers into suitable habitat may result "take". Excluding badger from the site is likely to cause badgers to move into existing badger's territory. The same scenario of passive relocation for kit fox may also result in "take". Studies need to be provided on both on- and off-site badger and kit fox territories if animals are to be passively relocated in order to increase chances of persistence. At a minimum, the revised or supplemental DEIS should identify suitable habitat nearby if the project is relying on passive relocation as a mitigation strategy. 8-33

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[15] Richardson and Miller 1997

[16] Camp et al. 1997; Richardson and Miller 1997

[17] Walker et al. 2005

[18] Long 1973, Goodrich and Buskirk 1998

6. *Cryptobiotic soil crusts and Desert Pavement*

The proposed project is located in the Mojave Desert Air Quality Management District area, which is already in non-attainment for PM-10 particulate matter[19]. The construction of the proposed project further increase emissions of these types of particles because of the disruption and elimination of potentially thousands of acres of cryptobiotic soil crusts. Cryptobiotic soil crusts are an essential ecological component in arid lands. They are the "glue" that holds surface soil particles together precluding erosion, provide "safe sites" for seed germination, trap and slowly release soil moisture, and provide CO_2 uptake through photosynthesis[20]. 8-34

The FEIS does not describe the on-site cryptobiotic soil crusts. The proposed project will disturb an unidentified portion of these soil crusts and cause them to lose their capacity to stabilize soils and trap soil moisture. The DEIS fails to provide a map of the soil crusts over the project site, and to present any avoidance or minimization measures. It is unclear how many acres of cryptobiotics soils will be affected by the project. The DEIS must identify the extent of the cryptobiotic soils on site and analyze the potential impacts to these diminutive, but essential desert ecosystem components as a result of this project.

While desert pavements are mentioned as occurring on the proposed project site (DEIS at D.2-7), quantitative acreage of pavement are not identified. The DEIS recognizes that "desert pavement is resistant to further wind erosion. If this protective layer is disturbed, the underlying layer of Aeolian material is subject to high levels of wind erosion, comparable to the Aco Series. The Aco Series on the eastern third of the site has the highest erosion rates for undisturbed, disturbed, and operational conditions and may be considered a potentially significant impact from the Project." (at C.9-41 [Soil and Water Resources Section]). However, the impact to air quality from disturbance of this highly erodible soil type is not analyzed.

7. *Insects*

The DEIS fails to address insects on the proposed project site. In fact no surveys or evaluation of rare or common insects are included in the DEIS. Dune habitats are notorious for supporting endemic insects, typically narrow habitat specialists[21]. 8-35

8. *Decommissioning and Reclamation Plan*

Desert lands are notoriously hard to revegetate or rehabilitate[22] and revegetation never supports the same diversity that originally occurred in the plant community prior to disturbance[23]. The task of revegetating almost eleven square miles will be a Herculean effort that will require significant financial resources. In order to assure that the ambitious goals of the revegetation effort is met post project closure, it will be necessary to bond the project, so that all revegetation obligations will met and assured. The bond needs to be structured so that it is tied to meeting the specific revegetation criteria. 8-36

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[19] http://www.mdaqmd.ca.gov/index.aspx?page=214

[20] Belnap 2003, Belnap et al 2003, Belnap 2006, Belnap et al. 2007

[21] Dunn 2005.

[22] Lovich and Bainbridge 1999

[23] Longcore 1997

The project will cause permanent impacts to the on-site plant communities and habitat for wildlife despite "revegetation", because the agency's regulations based on the Northern and Eastern Colorado Plan's rehabilitation strategies[24] only requires 40% of the original density of the "dominant" perennials, only 30% of the original cover. Dominant perennials are further defined as "any combination of perennial plants that originally accounted cumulatively for at least 80 percent of relative density".[25] These requirements fail to truly "revegetate" the plant communities to their former diversity and cover even over the long term. While Bio-23 requires the development of a Decommissioning and Reclamation Plan, that plan is not available for public review. While BLM's own regulations 43 CFR 3809.550 et seq. require a detailed reclamation plan and a cost estimate, they need to be included in the revised EIS. 8-36 cont.

9. *Fire Plan*

Fire in desert ecosystems is well documented to cause catastrophic landscape scale changes[26] and impacts to the local species[27]. The DEIS mentions the impacts of fire via the proliferation of nonnative weeds (DEIS at C.2-32), it fails to analyze the impacts of fire on adjacent natural desert habitat. The DEIS fails to adequately analyze the impact that an escaped on-site-started fire could have on the natural lands adjacent to the project site if it escaped from the site. The likelihood of fire is of particular concern for this proposal which includes large amounts of flammable hydrogen manufactured and stored on site and piped throughout the site. The DEIS also fails to address the mitigation of this potential impact. Instead it defers it to the Worker Environmental Awareness Program (WEAP) and only requires "a discussion of fire prevention measures to be implemented by workers during project activities" (DEIS at C.2-77). A fire prevention and protection plan needs to be developed and required to prevent the escape of fire onto the adjacent landscape (avoidance), lay out clear guidelines for protocols if the fire does spread to adjacent wildlands (minimization) and a revegetation plan if fire does occur on adjacent lands originating from the project site (mitigation) or caused by any activities associated with construction or operation of the site even if the fire originates off of the project site. 8-37

10. *Failure to Identify Appropriate Mitigation*

Because the DEIS fails to provide adequate identification and analysis of impacts, inevitably, it also fails to identify adequate mitigation measures for the project's environmental impacts. "Implicit in NEPA's demand that an agency prepare a detailed statement on 'any adverse environmental effects which cannot be avoided should the proposal be implemented,' 42 U.S.C. § 4332(C)(ii), is an understanding that an EIS will discuss the extent to which adverse effects can be avoided." *Methow Valley*, 490 U.S. at 351-52. Because the DEIS does not adequately assess the project's direct, indirect, and cumulative impacts, its analysis of mitigation measures for those impacts is necessarily flawed. The DEIS must discuss mitigation in sufficient 8-38 detail to ensure that environmental consequences have been fairly evaluated." *Methow Valley*, 490 U.S. at 352; *see also Idaho Sporting Congress*, 137 F.3d at 1151 ("[w]ithout analytical detail to support the proposed mitigation measures, we are not persuaded that they amount to anything more than a 'mere listing' of good management practices"). As the Supreme Court clarified in *Robertson*, 490 U.S. at 352, the "requirement that an EIS contain a detailed discussion of possible mitigation measures flows both from the language of [NEPA] and, more expressly, from CEQ's implementing regulations" and the "omission of a reasonably complete discussion of possible mitigation measures would undermine the 'action forcing' function of NEPA." 8-38 cont.

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[24] http://www.blm.gov/ca/st/en/fo/cdd/neco.html

[25] Ibid

[26] Brown and Minnich 1986, Lovich and Bainbridge 1999, Brooks 2000, Brooks and Draper 2006, Brooks and Minnich 2007

[27] Ducher 2009

Although NEPA does not require that the harms identified actually be mitigated, NEPA does require that an EIS discuss mitigation measures, with "sufficient detail to ensure that environmental consequences have been fairly evaluated" and the purpose of the mitigation discussion is to evaluate whether anticipated environmental impacts *can be avoided*. *Methow Valley*, 490 U.S. at 351-52. As the Ninth Circuit recently noted: "[a] mitigation discussion without at least *some* evaluation of effectiveness is useless in making that determination." *South Fork Band Council of Western Shoshone v. DOI* , 588 F.3d 718 , 727 (9th Cir. 2009) (emphasis in original).

Here, the DEIS does not provide a full analysis of possible mitigation measures to avoid or lessen the impacts of the proposed project and therefore the BLM cannot properly assess the likelihood that such measures would actually avoid the impacts of the proposed project.

E. Key Plans are Not Included

The DEIS fails to include key plans for public review. Plans relied upon for adequate mitigation but which are unavailable include:

- Weed Management Plan (DEIS at C.2-72 and 137)
- Biological Resources Mitigation Implementation and Monitoring Plan (DEIS at C.2-56)
- Raven Management and Monitoring Plan (DEIS at C.2-1 and 136)
- detailed revegetation plan for temporary disturbance (DEIS at C.2-110 and 126)
- Decommissiong and Reclamation Plan (for permanent closure) (DEIS at C.2-4) [Closure, Conceptual Restoration Plan (DEIS at C.2-121)]
- Burrowing Owl Mitigation and Monitoring Plan (DEIS at C.2-65)
- Burrowing Owl Relocation/Translocation Plan (DEIS at C.2-65)
- Avian Protection Plan (DEIS at C.2-3 and 137) 8-39
- Plan for restoring sheet flow to the terrain downslope of the Project boundaries (DEIS at C.2-55)
- Desert Tortoise Relocation/Translocation Plan (DEIS at C.2-58 and 130)
- Desert Tortoise Management Plan for Mitigation Lands (DEIS at C.2-60) [also possibly called the Desert Tortoise Compensatory Mitigation Plan (DEIS at C.2-87] [also including management plan of site-specific enhancement of drainages (DEIS C.2-146)
- Special-status Plant Impact Avoidance and Mitigation Plan (DEIS at C.2-72 and 142)
- Reclamation Plan as required by BLM at 43 CFR 3809.550 et seq. including cost estimates 43 CFR 3715 (DEIS at C.2-77-78)
- Channel Decommissioning and Reclamation Plan (DEIS at C.2-78 and 149)

- Project Hazardous Materials Plan (DEIS at C.2-125)
- Management Plan for Sand Dune/Fringe-toed Lizard (DEIS at C.2-144) 8-39 cont.

While the Management Plan for Acquired Lands (DEIS at C.2-50 and 146) is a key document that is missing and needs to have public review to ascertain if, in fact, acquired lands actually do mitigate for the impacts, the DEIS fails to identify the acquisition lands, or if acquisition lands are actually even available. Clearly, if the proposed project was to move forward, acquired lands are a key component of a mitigation strategy. The supplemental EIS must provide a better evaluation if lands are available, and where those lands are, and how they will fulfill the mitigation scenario. 8-40

The Special Status Plant Survey and Protection Plan (DEIS at C.2-72 and 142) is also missing. While this plan is proposed as a mitigation requirement, that position is unsupportable because the special status plant surveys need to be done to provide the baseline data from which evaluation for potential project impacts can be analyzed. Surveys are not a mitigation strategy. 8-41

E. Impacts to Water Resources—Groundwater and Surface Water Impacts

As with the biological resources, the DEIS recognizes (at pg. ES-15) that based on the information provided in the soils and water analysis it is undetermined if the project proposal and mitigations complies with all of the LORS. Additionally it is undetermined if impacts could be mitigated. For this reason alone, a supplemental or revised DEIS needs to be provided that determines if LORS are complied with and the status of mitigation for the soils and water. 8-42

F. The DEIS Fails to Adequately Identify, Analyze and Off-set Impacts to Air Quality and GHG Emissions.

Federal courts have squarely held that NEPA requires federal agencies to analyze climate change impacts. *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 508 F.3d 508 (9th Cir. 2007). As most relevant here, NEPA requires consideration of greenhouse gas emissions ("GHG emissions") associated with all projects and, in order to fulfill this requirement the agencies should look at all aspects of the project which may create greenhouse gas emissions including operations, construction, and life-cycle emissions from materials. Where a proposed project will have significant GHG emissions, the agency should identify alternatives and/or mitigation measures that will lessen such effects. 8-43

As part of the NEPA analysis federal agencies must assess and, wherever possible, quantify or estimate GHG emissions by type and source by analyzing the direct operational impacts of proposed actions. Assessment of direct emissions of GHG from on-site combustion sources is relatively straightforward. For many projects, as with the proposed project, energy consumption will be the major source of GHGs. The indirect effects of a project may be more far-reaching and will require careful analysis. Within this category, for example, the BLM should evaluate, GHG and GHG-precursor emissions associated with construction, electricity use, fossil fuel use, water consumption, waste disposal, transportation, the manufacture of building materials (lifecycle analysis), and land conversion. Moreover, because many project may undermine or destroy the value of carbon sinks, including desert soils, projects may have additional indirect effects from reduction in carbon sequestration, therefore both the direct and quantifiable GHG emissions as well as the GHG effects of destruction of carbon sinks should be analyzed. 8-43 cont.

The discussion of greenhouse gas emissions ("GHG") in the DEIS notes that the solar project will produce GHGs primarily from the gas boilers and Heat Transfer Fluid ("HTF") heaters. The GHG emissions from the boilers during project operations is estimated to be 12,102 metric tons CO2 equivalent and from the HTF heaters an additional 3,724 metric tons CO2 equivalent annually for total operations emissions (including all sources) of 17,679 metric tons CO2 equivalent annually. DEIS at C.1-70 (Greenhouse gas table 3). The boilers and heaters are stated to be for start up or freeze control but the DEIS assumes that they may be allowed to be used for very long periods of time – up to 15 hours per day for the boilers up to 5,000 hours per year and up to 10 hours per day for the HTF heaters up to 500 hours per year. *See* DEIS at C.1-16 to 17; C.1-52 (HTF heater limits); C.1-50 (condition of maximum natural gas use for gas boilers). No explanation is provided for these long hours of supplemental natural gas use for this solar power plant and no additional limits are discussed or analyzed in violation of NEPA. The DEIS also fails to adequately explore whether an alternative solar technology (such as PV) would reduce greenhouse gas emissions both during operations and over the life-cycle of the components of the proposed project. There is no discussion of reducing these sources by using alternative fuels or highly efficient vehicles and equipment and no discussion of providing off sets for these GHG emissions.

Another GHG emission source for this proposed project is SF6 from electrical equipment leakage. DEIS at C.1-70. However, the DEIS does not mention additional sources of SF6 from transmission lines associated with the project. Moreover, leakage of SF6 is of particular concern as it is many times more potent greenhouse gas than CO2—indeed, its potential as a GHG has been estimated at 23,900 times that of CO2 (for a 100 year time horizon) and it can persist in the atmosphere far longer than CO2 as well—up to 3,200 years.[28] The DEIS fails to state the actual amount of SF6 that is estimated to leak from equipment and provides only that 24 MTCO2E is expected in emissions each year. No information is provided on the calculation. Moreover, the DEIS does not analyze any alternatives to avoid or minimize the long-term emissions of this powerful GHG from operations and no mitigation measures are provided. 8-44

The GHG emissions from the construction phase of the project are stated to be over 130,000 metric tons CO2 equivalent (Greenhouse gas table 2, DEIS C.1-70). Again, there is no discussion of reducing these emissions by using more efficient equipment or vehicles. 8-45

The DEIS also fails to adequately address other air quality issues including PM10 both during construction and operation which is of particular concern in this area which is a nonattainment area for PM10 and ozone. It is clear that extensive on-site grading will result in significant amounts of bare soils and increased PM10 may be introduced into the air by wind and 8-46 that the use of the area during construction and operations will lead to additional PM10 emissions from the site. 8-46 cont.

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[28] P. Forster et al., *Changes in Atmospheric Constituents and in Radiative Forcing*, *in* CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS. CONTRIBUTION OF WORKING GROUP I TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (Solomon, S., et al. eds., Cambridge University Press 2007) at p. 212, Table 2.14.

BLM fails to identify any significant GHG emissions and therefore does not provide for avoidance, minimization, or mitigation. BLM has also failed to include the loss of carbon sequestration from soils in its calculations or to provide a lifecycle analysis of GHG emissions that include manufacturing and disposal. Moreover, it is undisputed that in the near-term GHG emissions will increase emissions during construction, and in the manufacturing and transportation of the components. BLM fails to consider any alternatives to the project that would minimize such emissions or to require that these near-term emissions be off set in any way. 8-47

Although the proposed project may reduce GHG's overall it will also emit GHGs during both construction and operations that are not accounted for or off-set, BLM completely fails to explore this aspect of the impacts of the project in the DEIS in violation of NEPA. 8-48

G. The Analysis of Cumulative Impacts in the DEIS Is Inadequate

A cumulative impact is "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7. The Ninth Circuit requires federal agencies to "catalogue" and provide useful analysis of past, present, and future projects. *City of Carmel-By-The-Sea v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1160 (9th Cir. 1997); *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 809-810 (9th Cir. 1999).

"In determining whether a proposed action will significantly impact the human environment, the agency must consider '[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment.' 40 C.F.R. § 1508.27(b)(7)." *Oregon Natural Resources Council v. BLM,* 470 F.3d 818, 822-823 (9th Cir. 2006). NEPA requires that cumulative impacts analysis provide "some quantified or detailed information," because "[w]ithout such information, neither courts nor the public . . . can be assured that the Forest Service provided the hard look that it is required to provide." *Neighbors of Cuddy Mountain v. United States Forest Service*, 137 F.3d 1372, 1379 (9th Cir. 1988); *see also id.* ("very general" cumulative impacts information was not hard look required by NEPA). The discussion of future foreseeable actions requires more than a list of the number of acres affected, which is a necessary but not sufficient component of a NEPA analysis; the agency must also consider the actual environmental effects that can be expected from the projects on those acres. *See Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 995-96 (9th Cir. 2004) (finding that the environmental review documents "do not sufficiently identify or discuss the incremental impact that can be expected from each [project], or how those individual impacts might combine or synergistically interact with each other to affect the [] environment. As a result, they do not satisfy the requirements of the NEPA.") Finally, cumulative analysis must be done as early in the environmental review process as possible, it is not appropriate to "defer consideration of 8-49 cumulative impacts to a future date. 'NEPA requires consideration of the potential impacts of an action *before* the action takes place.'" *Neighbors*, 137 F.3d at 1380 *quoting City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1313 (9th Cir. 1990) (emphasis in original). 8-49 cont.

The DEIS identifies many of the cumulative projects but does not meaningfully analyze the cumulative impacts to resources in the California desert from the many proposed projects (including renewable energy projects and others). Moreover, because the initial identification and analysis of impacts unfinished, the cumulative impacts analysis cannot be complete. For example, the identification of plant communities on site is unfinished and incomplete as is the evaluation of the impacts of the gen-tie line and the Colorado River substation, the cumulative impacts are also therefore inadequate.

The DEIS also fails to consider all reasonably foreseeable impacts in the context of the cumulative impacts analysis. *See Native Ecosystems Council v. Dombek, et al,* 304 F.3d 886 (9th Cir. 2002) (finding future timber sales and related forest road restriction amendments were "reasonably foreseeable cumulative impacts"). The DEIS also fails to provide the needed analysis of how the impacts might combine or synergistically interact to affect the environment in this valley or region. *See Klamath-Siskiyou Wildlands Ctr. v. BLM,* 387 F.3d 989, 995-96 (9th Cir. 2004). 8-50

The NEPA regulations also require that indirect effects including changes to land use patterns and induced growth be analyzed. "Indirect effects," include those that "are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include *growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems*." 40 C.F.R. s.1508.8(b) (emphasis added). *See TOMAC v. Norton*, 240 F. Supp.2d 45, 50-52 (D.D.C. 2003) (finding NEPA review lacking where the agency failed to address secondary growth as it pertained to impacts to groundwater, prime farmland, floodplains and stormwater run-off, wetlands and wildlife and vegetation); *Friends of the Earth v. United States Army Corps of Eng'rs*, 109 F. Supp.2d 30, 43 (D.D.C. 2000) (finding NEPA required analysis of inevitable secondary development that would result from casinos, and the agency failed to adequately consider the cumulative impact of casino construction in the area); *see also Mullin v. Skinner*, 756 F. Supp. 904, 925 (E.D.N.C. 1990) (Agency enjoined from proceeding with bridge project which induced growth in island community until it prepared an adequate EIS identifying and discussing in detail the direct, indirect, and cumulative impacts of and alternatives to the proposed Project); *City of Davis v. Coleman*, 521 F.2d 661 (9th Cir. 1975) (requiring agency to prepare an EIS on effects of proposed freeway interchange on a major interstate highway in an agricultural area and to include a full analysis of both the environmental effects of the exchange itself and of the development potential that it would create). 8-51

The cumulative impacts to the resources of the California deserts has not been fully identified or analyzed, and mitigation measures have not been fully analyzed as well. 8-52

H. The EIS' Alternatives Analysis is Inadequate

NEPA requires that an EIS contain a discussion of the "alternatives to the proposed action." 42 U.S.C. §§ 4332(C)(iii),(E). The discussion of alternatives is at "the heart" of the NEPA process, and is intended to provide a "clear basis for choice among options by the decisionmaker and the public." 40 C.F.R. §1502.14; *Idaho Sporting Congress*, 222 F.3d at 567 (compliance with NEPA's procedures "is not an end in itself . . . [but] it is through NEPA's action forcing procedures that the sweeping policy goals announced in § 101 of NEPA are realized.") (internal citations omitted). NEPA's regulations and Ninth Circuit case law require the agency to "rigorously explore" and objectively evaluate "all reasonable alternatives." 40 C.F.R. § 1502.14(a) (emphasis added); *Envtl. Prot. Info. Ctr. v. U.S. Forest Serv.*, 234 Fed. Appx. 440, 442 (9th Cir. 2007). "The purpose of NEPA's alternatives requirement is to ensure agencies do not undertake projects "without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means." *Envtl. Defense Fund, Inc. v. U.S. Army Corps of Engrs.*, 492 F.2d 1123, 1135 (5th Cir. 1974). An agency will be found in compliance with NEPA only when "all reasonable alternatives have been considered and an appropriate explanation is provided as to why an alternative was eliminated." *Native Ecosystems Council v. U.S. Forest Serv.,* 428 F.3d 1233, 1246 (9th Cir. 2005); *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1228-1229 (9th Cir. 1988). The courts, in the Ninth Circuit as elsewhere, have consistently held that an agency's failure to consider a reasonable alternative is fatal to an agency's NEPA analysis. *See, e.g., Idaho Conserv. League v. Mumma*, 956 F.2d 1508, 1519-20 (9th Cir. 1992) ("The existence of a viable, but unexamined alternative renders an environmental impact statement inadequate."). 8-53

If BLM rejects an alternative from consideration, it must explain why a particular option is not feasible and was therefore eliminated from further consideration. 40 C.F.R. § 1502.14(a). The courts will scrutinize this explanation to ensure that the reasons given are adequately supported by the record. *See Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 813-15 (9th Cir. 1999); *Idaho Conserv. League*, 956 F.2d at 1522 (while agencies can use criteria to determine which options to fully evaluate, those criteria are subject to judicial review); *Citizens for a Better Henderson*, 768 F.2d at 1057.

Here, BLM too narrowly construed the project purpose and need such that the DEIS did not consider an adequate range of alternatives to the proposed project.

The alternatives analysis is inadequate even with the inclusion of the alternative site configuration and a reduced acreage alternative. Additional feasible alternatives should be considered which would avoid all Colorado desert microphyll woodlands as well as alternatives that would have looked at alternative sites for the substation to avoid impacts to the Mojave fringe-toed lizard. In addition a phased alternative should have been included which would allow the portions of the project that have the fewest impacts to move forward (in this case the eastern segments of the proposed project) while also affording the project proponent time to find and acquire permits for more appropriate sites for one or more additional phases of the project on previously degraded disturbed lands in this area (for example those adjacent to the proposed site discussed in the Blythe Mesa alternative) and also to explore other off-site alternatives. 8-54

The document also includes other alternatives that were stated as being "Site Alternatives Evaluated only under CEQA" which includes the proposed site and one off-site alternative – the 8-55

Blythe Mesa alternative. The document eliminated from consideration a distributed renewable energy alternative. The BLM (as well as the CEC) should have also looked alternative siting on previously degraded lands such as nearby farmlands, distributed solar alternatives, and other alternatives that could avoid impacts of the proposed project as well as impacts of the associated transmission lines and substations. In addition, as discussed above, the BLM should have looked at alternatives for construction and operations that would reduce GHG emissions by using alternative technology and/or on site conservation measures and offsets. 8-55 cont.

The BLM failed to consider any off-site alternative that would significantly reduce the impacts to biological resources including desert wash habitat/microphyll woodlands. Because such alternatives are feasible, on this basis and other the range of alternatives is inadequate. The Center urges the BLM to revise the DEIS to adequately address a range of feasible alternatives and other issues detailed above and then to re-circulate a revised or supplemental DEIS for public comment. 8-56

In addition, in order to meet the DOE's purpose and need states that: "The two principal goals of the loan guarantee program are to encourage commercial use in the United States of new or significantly improved energy-related technologies and to achieve substantial environmental benefits. The purpose and need for action by DOE is to comply with their mandate under EPAct by selecting eligible projects that meet the goals of the Act." DEIS at B.2-11. Assuming for the sake of argument alone that these are proper project objectives, the DEIS should have considered alternatives that would provide funding to other types of projects. Such alternatives could include, for example, conservation and efficiency measures that both avoid and reduce energy use within high-energy use load-centers including the Los Angeles area.

Alternative measures could include funding community projects for training and implementation of conservation measures such as increased insulation, sealing and caulking, and new windows for older buildings and new or improved technologies for accomplishing these important goals. For example, air conditioning creates the largest demand for energy during peak times and there already exist methods to reduce the energy use from air conditioning but implementation has lagged well behind technology. Conservation and efficiency measures are an excellent and quick way of reducing demand in both the short- and long-term and reduce the need for additional power sources. In addition, many of the existing conservation and efficiency measures can provide immediate jobs and training in high population areas with significant unemployment (particularly among low skilled workers and youth). 8-57

The existence of these and other feasible but unexplored alternatives shows that the BLM's analysis of alternatives in the DEIS is inadequate. 8-58

IV. Conclusion

Thank you for your consideration of these comments. In light of the many omissions in the environmental review to date, we urge the BLM to revise and re-circulate the DEIS or prepare a supplemental DEIS before making any decision regarding the proposed plan amendment and right-of-way application. In the event BLM chooses not to revise the DEIS and provide adequate analysis, the BLM should reject the right-of-way application and the plan 8-59 amendment. Please feel free to contact us if you have any questions about these comments or the documents provided. ↑ 8-59 cont.

Sincerely,

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Cambridge University Press 2007) at p. 212, Table 2.14.

Comment Letter 9

"Jenna Jadin"

06/18/2010 08:07 AM

To <CAPSSolarBlythe@blm.gov>
cc
bcc
Subject BSPP project comments

Dear Ms. Shaffer:

Please accept the attached comments from The Wildlife Society regarding the Blythe Solar Power Plant development project.

Thank you,
Jenna Jadin

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18 June 2010

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Dear Ms. Shaffer:

The Wildlife Society (TWS) appreciates the opportunity to submit comments concerning the draft Environmental Impact Statement (DEIS) for Chevron Energy Solutions/Solar Millennium Blythe Solar Power Plant (BSPP).

The Wildlife Society was founded in 1937 and is a non-profit scientific and educational association of over 9,100 professional wildlife biologists and managers, dedicated to excellence in wildlife stewardship through science and education. Our mission is to represent and serve wildlife professionals—the scientists, technicians, and practitioners actively working to study, manage, and conserve native and desired non-native wildlife and their habitats worldwide.

TWS believes that solar energy will be an important component of a clean-energy solution to climate change. However, we are concerned about the effects that solar projects may have on wildlife and wildlife habitat. Every form of energy development can have lasting effects on wildlife and habitat if not developed responsibly. Solar power development must take into account the potential loss of wildlife habitat in sensitive areas, particularly that contain vulnerable or threatened or endangered species. As solar power arrays are developed in the Southwest, desert ecosystems are some of these sensitive areas that are increasingly under threat. 9-01

In desert ecosystems, recovery from disturbances can be especially slow. Ecosystem damages that accompany energy development, such as hard-packing of the soil and destruction of plant cover, are obstacles to recovery. Compacted soil and the absence of plants' roots will prevent the soil from absorbing and holding water, further reducing water availability in an already arid environment and potentially increasing erosion. Disturbed habitat is also vulnerable to invasion by non-native species, which gain a competitive edge when native species are destroyed.[1] Maintenance and activity around the project site will continue to impede recovery even after construction is finished. 9-02

Roadways, an inherent feature of energy production, increase direct animal mortalities from vehicle strikes, provide access to remote areas for illegal collection of plants and animals, act as an inroad for invasive species that thrive in disturbed areas, cause habitat fragmentation, restrict gene flow among native populations, and increase erosion.[2] 9-03

In respect to the BSPP project, the potential effects on the native – and threatened -- desert tortoise (*Gopherus agassizii)* are of particular concern. Native to the deserts of the American southwest, the species is recognized as having distinct populations in the Sonoran and Mojave deserts, respectively. The Sonoran population is listed as a species of concern by the Arizona Game and Fish Department, while the Mojave population was listed as threatened by the US Fish and Wildlife Service in 1990.[3] The Mojave listing came after habitat loss and off-road vehicle use, along with an outbreak of upper respiratory disease, led to a decline in the tortoise population.[4] Energy development may place similar pressure on the Sonoran population. For example, roads can cause significantly greater death rates, with one study finding lesser population densities up to 400 meters from the road, likely because of car strikes.[5] For a threatened animal like the desert tortoise, substantial increases in mortality can have devastating effects on local populations and the ultimate survival of the species.

Studies have shown that genetic diversity in the desert tortoise is likely supported by long-distance immigrations of individuals between populations. Man-made obstacles, like highways and residential developments, are known to decrease migration rates in animals. Keeping corridors open for exchange between populations will be critical to maintaining a healthy and genetically diverse population, and in the event that roads must be built, fencing or barriers alongside roads can be used to guide tortoises to culverts for safe crossing. 9-04

The BSPP project would occupy 9,400 acres of federal land and destroy 7,040 acres of tortoise habitat. One proposal would relocate tortoises to unaffected habitat. However, a review of translocation attempts showed high mortality rates in many species,[6] as initial capture, temporary captivity, and introduction to a new environment can all cause physiological and behavioral harm. Environmental disturbances like noise, vibration, and increased human density can also cause behavioral stress, adversely affecting important biological functions like reproduction, foraging, and predator avoidance.[7]and perhaps also making the animals more vulnerable to disease. A small, isolated population of tortoises with little ability to rapidly reproduce and maintain genetic diversity through immigration will be unable to recover from the large loss of adults that could result from translocation efforts.[8] There are means by which the stress of relocation can be lessened, including using a "soft" release technique, where animals are kept in pens in the new habitat to acclimate before they are ultimately freed.

Because desert tortoises spend a large amount of time in underground burrows, it has been difficult to estimate the population density by direct survey.[9] This lack of accuracy will complicate efforts to monitor tortoises' response to development. Often, large relocations undertaken for commercial projects do not release data on the outcome of the affected populations: in the case of solar development this information will be critical to assess ongoing conservation needs of the desert tortoise. Radiotelemetry will be an important tool to measure survival and determine causes of mortality as accurately as possible after release.[10] 9-05

The Desert tortoise is not the only native species at risk when desert regions are developed. The EIS for the Blythe Solar project lists the burrowing owl, desert bighorn sheep, American badger, Loggerhead shrike, Swainson's hawk, ferruginous hawk, yellow warbler, and Mojave fringe-toed lizard as species of concern for the project. It also notes that habitat fragmentation may impede immigration of the mountain lion, kit fox, and badger. 9-06

The Loggerhead shrike (*Lanius ludovicianus*), a songbird, is declining in the Sonoran Desert at a rate of 4.3% every year, faster than the background rate of decline for the species across North America.[11] Loggerhead shrikes need undeveloped open spaces to breed successfully, and could decline further if these habitats are lost.[12] The creosote bush scrub vegetative plant association of the Sonoran desert provides foraging habitat for the golden eagle, and is an important source of food and cover for many other species. Destruction of this critical habitat could mean reduced food availability for golden eagles that use the area as wintering grounds. The EIS fails to address the impacts of development on this group of golden eagles; further studies are needed to determine the full extent of threats posed to eagles and other species that depend on cresote bush scrub. 9-07

In addition to the background information that we have provided above, we would like to offer several more specific comments on the EIS:

1. Because the Biological Resources section's laws, ordinances, regulations, and standards (LORS) compliance and impacts mitigation conclusions are undetermined, it is difficult to provide meaningful public comments, as the potential effects of the project are not fully disclosed in the draft EIS. If it is determined that the effects to Biological Resources cannot be fully mitigated, please consider issuing a Revised EIS so the public has the opportunity to comment on the evaluation of consequences. 9-08
2. Page B.1-5 details water requirements for operation of the project, and page B.1-11 details construction water requirements. However, nowhere in the DEIS are the potential effects of such usage on the water table addressed. High and sustained use of the local water supply may have deleterious effects on wildlife, such as a lowering of the water table that may affect downstream springs or other surface water supplies. The final EIS should disclose all measures that will be used to monitor the local water table and mitigate any resulting negative consequences on wildlife and other natural resources. 9-09
3. The potential negative impacts of nighttime lighting are discussed on pages C.2-73-75. It is noted that nighttime lighting can play a large role in the mortality of bats, nocturnal birds, and migrating birds and mitigation measures that will be taken are outlined. These include minimizing lighting to as few areas as possible, use of flashing, rather than steady-burning lights, and use of hoods on all lights. While all of these measures may provide some degree of mitigation, the full extent of lighting disturbance on this desert ecosystem is unknown. We recommend adopting a Condition of Certification similar to BIO-15 for collisions that will provide information needed to determine if lighting adversely affects wildlife and provides adaptive management measures to mitigate those impacts to less than significant levels. 9-10
4. The addition of 600-1000 workers over a 69-month construction phase may have substantial indirect effects on fragile desert resources. The final EIS should describe any 9-11

actions that are being taken to prevent additional environmental degradation on and off-site as a result of an increased human presence. 9-11 cont.

5. The Final EIS or the Record of Decision should fully disclose if any Conservation Recommendations from the Biological Assessment are adopted, given the fragile nature of the desert ecosystem and the admitted potential for long lasting environmental effects that could last longer than the project facilities' lifespan. 9-12

Climate change will imperil species across the United States and around the world. Alternative energy sources are an essential part of mitigating that change to protect our environment, but siting and development must be done carefully to ensure that the losses to wildlife and wild lands do not outweigh the benefits of clean energy. The Wildlife Society asks that you take into account injurious effects on wildlife and accept our recommendations as you prepare the EIS for the Blythe Solar Power Plant.

Thank you for considering the views of wildlife professionals. Please feel free to contact Jenna Jadin, Assistant Director of Government Affairs, at or at (301) 897-9770 if you need further information or have any questions.

Sincerely,

Bruce D. Leopold, Ph.D.
President

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Comment Letter 10

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

JUL 12 2010

John Kalish
Field Manager
BLM Palm Springs-South Coast Field Office
Bureau of Land Management
1201 Bird Center Drive
Palm Springs, CA 92262

Subject: Draft Environmental Impact Statements for the Solar Millennium and Chevron Energy Solutions 1) Blythe Solar Power Project [CEQ#20100085] and 2) Palen Solar Power Project [CEQ#20100102], Riverside County, California

Dear Mr. Kalish:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statements (DEIS) for the Solar Millennium and Chevron Energy Solutions 1) Blythe Solar Power Project and 2) Palen Solar Power Project in Riverside County, California. Our comments are provided pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

EPA supports the development of renewable energy resources in an expeditious and well planned manner. Using renewable energy resources, such as solar power, can assist the nation in meeting its energy requirements while minimizing the generation of greenhouse gases. While renewable energy facilities offer many environmental benefits, appropriate siting and design of such facilities is of paramount importance if the nation is to make optimum use of its renewable energy resources without unnecessarily depleting or degrading its water resources, wildlife habitats, recreational opportunities, and scenic vistas.

The Bureau of Land Management has identified thirty-four proposed renewable energy projects as "fast track" projects that are expected to complete the environmental review process and be ready to break ground by December 2010 in order to be eligible for funding under the American Recovery and Reinvestment Act. We are aware that many more projects that have not been designated "fast-track" are also being considered by BLM. Many, if not all, of these projects, fast track or otherwise, are proposed for previously undeveloped sites on public lands. In making its decisions regarding whether or not to grant rights-of-way for such projects, we recommend that BLM consider a full range of reasonable alternatives to minimize the adverse environmental impacts. Such alternatives could include alternative technologies or altered 10-1

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project footprints at the proposed location, as well as alternate sites, such as closed landfill or other disturbed sites that may offer advantages in terms of availability of infrastructure and less vulnerable habitats. Given the large number of renewable energy project applications currently under consideration, particularly in the Desert Southwest, we encourage BLM to apply its land management authorities in a manner that will promote a long-term sustainable balance between available energy supplies, energy demand, and protection of ecosystems and human health. 10-1 cont.

On December 11, 2009, EPA provided separate scoping comments for the Blythe Solar Power Project and the Palen Solar Power Project which included detailed recommendations regarding purpose and need, range of alternatives, water resources, and other resource areas of concern. On June 15, 2010, we requested and received an extension on the Blythe Solar Power Project so that we could complete our reviews and prepare a single letter to convey our comments on both of these solar trough projects, which are in close proximity to each other. We appreciate your willingness to provide us with additional time to complete our review. We have rated the Blythe and Palen Solar Power Projects and DEISs as *Environmental Concerns – Insufficient Information* (EC-2). Please see the enclosed "Summary of EPA Rating Definitions."

In the enclosed detailed comments, we provide specific recommendations regarding analyses and documentation needed to assess potential significant impacts from the proposed Projects. Specifically, EPA is concerned with the: 1) mitigation for impacts to biological resources and special status species, 2) current justification for the Project purpose and need, 3) facility siting and 4) mitigation for ephemeral wash and groundwater impacts.

In addition, the Blythe and Palen Solar Power Project DEISs evaluate Reconfigured Alternatives and Reduced Acreage Alternatives which would significantly reduce adverse impacts to state waters and higher quality desert tortoise and burrowing owl habitat. The Reduced Acreage Alternative for Blythe would generate 750 megawatts (MW) of power while reducing impacts to habitat by 40% and avoiding 305 acres of state waters which provide valuable hydrologic, biogeochemical, plant and wildlife functions. The Reduced Acreage Alternative for Palen would generate 375 MW of power while avoiding 242 acres of state waters and nearly 1,800 acres of desert tortoise habitat. Fewer direct adverse impacts would significantly reduce required mitigation security payments and adverse cumulative impacts. We encourage BLM to select the Reduced Acreage Alternatives for Blythe and Palen if it chooses to grant right-of-way permits and amend the California Desert Conservation Area Plan for the Projects.

EPA appreciates the opportunity to provide input on these Projects and the multitude of DEISs under preparation for renewable energy projects in our Region. We are available to further discuss all recommendations provided. When the FEISs are released for public review, please send one hard copy and one CD of each to the address above (Mail Code: CED-2). If you have any questions, please contact me at , or contact Stephanie Skophammer, the lead reviewer for these Projects. Stephanie can be reached at or skophammer.stephanie@epa.gov.

Sincerely,

Connell Dunning

For Kathleen M. Goforth, Manager
Environmental Review Office (CED-2)
Communities and Ecosystems Division

Enclosures:	Summary of EPA Rating Definitions Detailed Comments
Cc:	Jim Abbott, Bureau of Land Management, California State Office Allison Shaffer, Bureau of Land Management, Palm Springs Field Office Alan Solomon, California Energy Commission Shannon Pankratz, US Army Corps of Engineers Tannika Engelhard, United States Fish and Wildlife Service Becky Jones, California Department of Fish and Game Michael Picker, Office of the Governor

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

U.S. EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENTS FOR THE SOLAR MILLENNIUM AND CHEVRON ENERGY SOLUTIONS BLYTHE AND PALEN SOLAR POWER PROJECTS, RIVERSIDE COUNTY, CALIFORNIA, JULY 1, 2010.

Project Description

Palo Verde Solar I and Palen Solar I, wholly owned subsidiaries of Solar Millennium, have submitted right-of-way (ROW) applications to the Bureau of Land Management (BLM) to construct separate concentrated solar thermal parabolic trough power plant facilities with a combined capacity of 1,500 megawatts (MW). Chevron Energy Solutions and Solar Millennium have a joint development agreement. The proposed projects lie in the southwestern deserts of California, approximately 40 miles from one another in Riverside County. Blythe Solar Power Project would consist of two 500 MW dry-cooled facilities that would use 600 acre feet per year (afy) of groundwater from onsite wells and be located on approximately 7,030 acres of public land near the Community of Blythe, CA. Palen Solar Power Project is also a dry-cooled facility, consisting of two 250 MW units on approximately 3,000 acres near Desert Center, CA, and would use 300 afy of groundwater from two onsite wells. Each facility is expected to operate for approximately 30 years.

Except where noted otherwise, all of the comments below apply to both Projects.

Ephemeral Washes and Drainage

Demonstrate that the proposed drainage plans will not disrupt downstream flows, functions, or values. The Blythe DEIS states that surface hydrology in the Project disturbance area is from storm water runoff originating in unnamed ephemeral washes west of the Project site from the McCoy Mountains. These washes are a component of the large alluvial fan that generally comprises the Palo Verde Mesa (p. C.2-16). The applicant's drainage plan proposes to replicate existing flow patterns and volume with five engineered channels adjacent to, through, or across the Project site with diffusers at the end which would restore sheet flow down slope of Project (p. C.2-54).

The Palen DEIS states that 364 acres of state jurisdictional waters will be impacted and that surface hydrology in the Project area is influenced largely by stormwater runoff off the northeastern flank of the Chuckwalla Mountains (p. C.2-20). The drainage plan for the Palen Project includes replicating existing flow patterns and volume of three channels; but channel design has yet to be finalized (p. C.2-67).

Recommendations:

Demonstrate that downstream flows will not be disrupted due to proposed changes to natural washes nor the excavation of large amounts of sediment. 10-2

Discuss the feasibility of utilizing existing drainage channels on site. Discuss the feasibility of utilizing more natural features, such as earthen berms or channels, rather than concrete-lined channels, if proposed. 10-3

Include the finalized drainage plan for each project in its respective Final Environmental Impact Statement (FEIS), to facilitate assessment of impacts and effectiveness of mitigation measures. 10-4

Provide more detailed information about fencing and its potential effects. The DEIS does not provide detailed information about fencing nor the effects of fencing on drainage systems and wildlife. In this region, storms can be sudden and severe, resulting in flash flooding. Fence design must address hydrologic criteria, as well as security performance criteria. The National Park Service recently published an article[1] on the effects of the international boundary pedestrian fence on drainage systems and infrastructure. We recommend that BLM review this article to ensure that such issues are adequately addressed. Fencing should also be designed to effectively preclude wildlife access, injury, and mortality. 10-5

Recommendation:
Provide more detailed information about fencing and its potential effects on drainage systems within the FEIS. Ensure that the fencing proposed for this project will meet appropriate hydrologic, wildlife protection and movement, and security performance standards.

Biological Resources

Describe the final biological resources mitigation commitments and how they will be funded and implemented. The Palen DEIS Biological Resources Table 6 (p. C.2-65) summarizes the recommended mitigation acreage for the proposed project, including 4,740 acres for desert tortoise, 3,011 acres for the Mojave fringe-toed lizard and 585 acres for direct impacts to State waters. The applicant proposes to achieve a 1.5:1 compensation ratio for desert wash woodland and a 0.5:1 ratio for unvegetated ephemeral swales. The Blythe project DEIS proposes to acquire 7,040 acres for desert tortoise (p. C.2-60), and achieve a 1.5:1 compensation ratio for desert wash woodland and a 1:1 ratio for vegetated ephemeral swales (p. C.2-54). For both projects, the costs associated with desert tortoise compensatory mitigation include an acquisition fee of $500 per acre, an initial habitat improvement cost of $330 per acre, and a long-term management endowment of $1,450 per acre (for total of $2,280 per acre security fee). 10-6

Detailed mitigation measures are determined on a project specific basis, and must be contained in each project's environmental analyses and decision documents. Project proponents have a number of options by which they can fulfill their mitigation requirements. The California Renewable Energy Action Team (REAT) recently announced a Memorandum of Agreement (MOA) with the National Fish and Wildlife Foundation for operation of the Renewable Energy Action Team Mitigation Account (REAT Account). The REAT Account is designed to help project proponents and the State and Federal governments more effectively implement biological resources mitigation for renewable energy projects in the Mojave and Colorado Desert region of southern California. It also will aid project proponents in carrying out contracting and construction activities in a timely manner per requirements for American Recovery and

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[1] **National Park Service, August 2008, Effects of the International Boundary Pedestrian Fence in the Vicinity of Lukeville, Arizona, on Drainage Systems and Infrastructure, Organ Pipe Cactus National Monument, Arizona,**

Reinvestment Act (ARRA) funding eligibility. Use of the REAT Account is only one of several options available to the proponent, and participation is voluntary.

Recommendations:
The FEISs should describe the final biological resources mitigation commitments for both projects and how they would be funded and implemented. They should state whether and how the Project applicant would utilize the REAT account or other mechanism. 10-6 cont.

Include, in the FEISs, mitigation plans for unavoidable impacts to waters of the State and biological resources such as desert tortoise, desert kit fox, burrowing owls, Nelson's bighorn sheep, golden and bald eagles, and their habitats. Such mitigation plans are described briefly in the sections BIO-1 to 24 in the Palen and Blythe DEISs; further details should be provided in the FEISs. Specifically, if the applicant is to acquire compensation lands, the location(s) and management plans for these lands should be fully disclosed. 10-7

All mitigation commitments should be included in the Record of Decision (ROD).

Groundwater

Further describe groundwater mitigation and detail its effectiveness in minimizing groundwater withdrawal. Both the Palen and Blythe proposed projects could impact water resources, and BLM and CEC staff have proposed mitigation measures to reduce identified groundwater impacts to levels that are less than significant (p. C.9-1). The Soil and Water Resources section C.9 of the Palen and Blythe DEISs references these mitigation measures, but a discussion of the effectiveness and the impacts of the mitigation is not included. 10-8

The Palen DEIS acknowledges that, due to the high volume of projects in the region, cumulative impacts to groundwater could be significant and may place the Palen project's Chuckawalla basin in overdraft condition. Overdraft is described as the amount of water withdrawn exceeding the amount of water that recharges the basin (p. C.9-38). Although the amount of water in basin storage greatly exceeds the potential overdraft, the Palen DEIS notes that a drop in groundwater levels could impact basin wells and lower the water table (C.9-40). Such basin balance analyses for the Palo Verde Mesa Basin are not provided in the Blythe DEIS.

Recommendation:
The Blythe FEIS should include a basin balance analysis for the Palo Verde Mesa Groundwater Basin. 10-9

Impacts to groundwater in the Chuckawalla Valley Groundwater Basin (Palen) and the Palo Verde Mesa Groundwater Basin (Blythe) should be minimized as much as possible. This may involve altering project design, implementing recycled water techniques, as well as considering reduced acreage alternatives. The FEISs should describe the effectiveness of, and commitments to, the mitigation and monitoring plans described in 10-10 the Mitigation Measures C.9.12 Soil&Water-1 to 11 (Palen) and C.9.10 Soil&Water-1 to 17 (Blythe). 10-10 cont.

The Blythe FEIS should also further describe the estimation of the impacts from withdrawing groundwater that is recharged by the Colorado River (p. C.9-108) and the 10-11 effectiveness of the mitigation proposed. The expected effectiveness of the mitigation must be documented and committed to, and the FEIS should clarify whether or not an entitlement to water from the Colorado River aquifer would be needed. This information should be made available in the FEIS and the ROD. 10-12

Purpose and Need

Update the discussion regarding the need for the proposed project. In the last three years, there has been tremendous growth in renewable energy, and decline in the more traditional sectors, including the postponement/indefinite delay and modification of large coal-fired power plants. Many factors have triggered this shift, including concerns about global warming and climate change. These events have spawned an unprecedented increase in the number of applications submitted to BLM for large-scale renewable energy projects on public lands in the desert southwest. BLM has received over 470 renewable energy project applications, to date, with a projected capacity of 97,000 MW of electricity[2].

EPA believes the discussion in the Blythe and Palen DEISs regarding the purpose and need for the proposed Project should be expanded to include more robust information regarding the *need* for the proposed project. As indicated in our scoping comments dated December 11, 2009, the DEIS should briefly discuss the proposed project in the context of the larger energy market that this project would serve; identify potential purchasers of the power produced; and discuss how the project will assist the State and nation in meeting renewable energy portfolio standards and goals. 10-13

Recommendation:
Update the discussion regarding the *need* for the individual proposed projects, utilizing more accurate, robust, and up-to-date references.

Re-state the Purpose and Need to allow analysis of all reasonable alternatives. The DEISs for Blythe and Palen present separately the purpose and need statements for BLM, Department of Energy (DOE), CEC, and project applicant. The BLM defines its purpose and need narrowly as approval or disapproval of the application for a ROW grant to construct, operate and decommission a solar power generation facility and associated infrastructure. Thus, BLM states that all site alternatives proposed to be located on lands not under the jurisdiction of BLM are considered unreasonable because none would accomplish the need to respond to Palo Verde Solar I ROW request (p. B.2-1) or Palen Solar I ROW request (p. B.2-2). The DOE's purpose and need would be to comply with its mandate under the Energy Policy Act (EPAct) to select eligible projects that meet the goals of the EPAct, and is contingent upon the decision to 10-14 enter into negotiation of a loan guarantee. CEC's purpose and need is to certify the construction, modification, and operation of thermal electric power plants 50 MW or larger (p. A-3).

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[2] **"Secretary Salazar, Senator Reid Announce 'Fast-Track' Initiatives for Solar Energy Development on Western Lands", U.S. Department of Interior, News Release, June 29, 2009. http://www.blm.gov/wo/st/en/info/newsroom/2009/june/NR_0629_2009.html**

The Purpose and Need for each project should be stated broadly enough to allow for the analysis of a full scope of alternatives, including off-site locations, environmentally preferable on-site alternatives, or other modes of renewable energy generation. The Purpose and Need should focus on the underlying problem(s) to be addressed, such as a lack of capacity to serve an increasing demand for energy, or the need to develop sufficient renewable energy to meet State renewable portfolio standards. Council on Environmental Quality (CEQ) regulations and guidance state that an environmental impact analysis shall include reasonable alternatives not within the jurisdiction of the agency (1502.14c) and "reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant" (NEPA's 40 Most Asked Questions 2a)[3]. 10-14 cont.

Recommendations:
We recommend that the Purpose and Need be stated, in each FEIS, in a manner that is broad enough for analysis and consideration of a full range of reasonable alternatives for addressing the underlying need. Reasonable alternatives may include off-site locations, environmentally preferable on-site alternatives, or other modes of renewable energy generation.

Each FEIS should describe BLM's options for acting upon an application for a right-of-way grant. For instance, describe the extent of BLM's authority to require the adoption of a "modified" project design or alternate site on BLM land, to deny an application, or to select another ROW application submitted by the same applicant or its corporate owner. 10-15

Describe the number of total renewable energy applications that are likely to proceed, any utility purchase agreements, and how generated power will be bought, sold, and used. The DEISs for Blythe and Palen state that the need for the proposed action has its basis in State and Federal orders and laws regarding renewable energy generation. The cumulative scenario describes the large number of renewable energy projects proposed on BLM land in California, Nevada, and Arizona, which are in various stages of environmental review or under construction. Presumably, some of these or other renewable energy facilities will be constructed pursuant to the joint Department of Energy (DOE)/BLM Programmatic Solar DEIS (PEIS) effort as well as the Desert Renewable Energy Conservation Plan (DRECP) process. 10-16

Recommendations:
To the extent practicable, each FEIS should discuss how many of the total renewable energy applications received by BLM are likely to proceed pursuant to the joint Department of Energy (DOE)/BLM Programmatic Solar DEIS effort and the Desert Renewable Energy Conservation Plan (DRECP) process, and the level of energy production those applications represent.

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[3] http://ceq.hss.doe.gov/nepa/regs/40/1-10.HTM#2

We recommend that each FEIS include additional information on the utility purchase agreements for the proposed power, and provide a description of how the power would be bought, sold, and used so that the reader can better evaluate the tradeoffs between resource protection and power generation. 10-17

Project Siting

Describe the criteria used to identify and compare siting locations. Provide a comparison of life-cycle costs and other regional projects. EPA continues to recommend the identification of potential project site locations that have been previously disturbed or contaminated. For example, the EPA's Re-Powering America initiative works to identify disturbed and contaminated lands appropriate for renewable energy development. For more information on this initiative visit http://www.epa.gov/oswerepa/. EPA strongly encourages BLM to promote the siting of renewable energy projects on disturbed, degraded, and contaminated sites before considering siting on large tracts of undisturbed public lands. We also recommend consideration of each proposed renewable energy project in comparison with others proposed in the desert southwest region and their adverse effects on waters of the State, jurisdictional waters of the United States, biological resources, air quality, and visual and cultural resource impacts. 10-18

Recommendations:

Each FEIS should describe the criteria used to identify and compare siting locations for renewable energy facilities, and to ascertain whether or not any disturbed sites are available that would be suitable for the proposed project. 10-19

We recommend reconsideration of alternatives such as the Private Land and Reduced Acreage Alternatives (for the Blythe and Palen projects) that would avoid and minimize adverse effects on biological, cultural, and visual resources. Fewer adverse impacts would significantly reduce required mitigation security payments and adverse cumulative impacts. 10-20

Each FEIS should include a table comparing the life-cycle costs of the different alternatives. Include information on the cost of the land, different project design criteria that would be required, acquisition effort, scheduling effects, and cost of mitigation. 10-21

Each FEIS should demonstrate that the approved project site is consistent with the Desert Renewable Energy Conservation Plan for the Mojave and Colorado Desert Regions. At a minimum, the FEIS should describe and commit to a process to ensure approved projects are consistent with the Desert Renewable Energy Conservation Plan. 10-22

Climate Change

The DEISs present a brief discussion on climate change but do not include measures to avoid, minimize, or mitigate the effects of climate change on the proposed projects (Appendix Air-1). Scientific evidence supports the concern that continued increases in greenhouse gas emissions 10-23 resulting from human activities will contribute to climate change. Effects on weather patterns, sea level, ocean acidification, chemical reaction rates, and precipitation rates can be expected. 10-23 cont.

Recommendations:

Consider how climate change could affect each proposed project, specifically within sensitive areas, and assess how the impacts of the proposed project could be exacerbated by climate change. 10-24

Identify strategies to more effectively monitor for climate change impacts in the surrounding area, such as monitoring groundwater change or special status species. 10-25

Briefly discuss the climate change *benefits* of solar energy. We suggest quantifying the greenhouse gas emissions that would be produced by other types of electric generating facilities (solar, geothermal, natural gas, coal-burning, and nuclear) generating comparable amounts of electricity, and compiling and comparing these values. 10-26

General Comments

Commit to compliance with LORS and mitigation requirements prior to Project approval. The Palen and Blythe DEISs state that there are technical areas currently undetermined with respect to mitigation of potential impacts and/or conformance with applicable laws, ordinances, regulations and standards (LORS) (Executive Summary, p. 15). These undetermined technical areas include biological resources, cultural resources, land use, soil and water resources, traffic and transportation, and transmission system engineering (Blythe) and air quality, cultural resources, soil and water resources, and transmission system engineering (Palen). Since neither project is already identified in the California Desert Conservation Area Plan, a Plan amendment is required. The amendment process includes a determination that the proposed amendment is in accordance with applicable laws and regulations. 10-27

Recommendation:

We recommend the FEISs include a firm commitment to the determination of compliance with LORS and mitigation requirements prior to final decisions on the projects and finalization of the CEC Conditions of Certification.

Complete all surveys and analyses to ascertain impacts to Cultural Resources. Include this information in each FEIS. The DEISs for the Palen and Blythe Projects state that current data have been analyzed; but, due to a lack of data, the impacts to cultural resources are indeterminate. 10-28

Recommendation:

EPA recommends that all surveys be completed and all impacts to cultural resources be assessed for the Blythe and Palen projects and that this information be made available in the FEISs.

Describe the reasonably foreseeable development and population growth as a result of proposed projects. The Blythe and Palen projects are located within approximately 40 miles of one another and the region anticipates an influx of hundreds of workers. Blythe Project construction will require an average of 604 workers over the 5 year construction period with a peak at approximately 1,004 workers in spring 2012 (Executive Summary p. 3). The Palen Project construction will demand an average of 566 employees over the 3 year construction period and peak at approximately 1,140 workers, also in spring 2012 (Executive Summary p. 3). The DEISs for both projects state that construction workers would be from the local counties of La Paz, AZ, Riverside, CA, and San Bernardino, CA.

Recommendation: 10-29

We recommend that the FEISs for both projects contain analyses of the impacts of workers to the areas of Desert Center and Blythe, CA. The documents should provide an estimate of the amount of growth, likely location(s), the impacts on municipal services, and the biological and environmental resources at risk. The documents should also include a discussion of potential transit options (including formal Rideshare, Carpooling, and Bussing) to transport workers from the nearest population centers to the remote project sites as well as other measures to facilitate accessibility to the job sites and reduce greenhouse gas emissions resulting from worker transportation.